Article

“Single System, Single-Standard” vs. “Single System, Multi-Standard”—The Impact of the Financing Method of Chinese Urban-Rural Integrated Medical Insurance System on the Rate of Joining Insurance for Middle-Aged and Elderly People

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Abstract: Basic Chinese medical insurance has achieved full coverage, but the inequality between urban and rural areas is still outstanding. Under this background, the government proposed the urban-rural Integrated Medical Insurance System which proposes two kinds of financing modes. Based on the decision-making theory of medical insurance and the logit regression model, this paper studies the influence of two kinds of financing modes on middle-aged and elderly people’s decisions to participate in integrated medical insurance in China. The two financing modes are “single-standard” and “multi-standard”. The results show that the two kinds of financing methods have positive and significant effects, and the incentive effect of “multi-standard” on the integrated medical insurance is greater than that of “single-standard”. Having an urban household registration promotes the development of the “multi-standard”. However, there are some central provinces are not eable to improve the integrated medical insurance participation rate through “multi-standard”. Improving the participation rate of integrated medical insurance can promote the balanced allocation of resources between urban and rural areas, as well as different income groups and regions. Moreover, it can ensure a smooth transition of medical insurance policies. We should hold and boost the financing method of “multi-standard” to guarantee medical insurance integration’s rapid and steady progress in China.

Keywords: Integrated Medical Insurance System; financing method; middle-aged and elderly people; rate of joining insurance

1. Introduction

The most attractive healthcare policy, Integrated Medical Insurance System (IMIS), has not been implemented as smoothly as imagined. A few cities tried to explore health care integration when the new health care system was launched in 2009. Later, the central government developed relevant policies beginning in 2013, but medical insurance integration and development is still relatively slow (Some researchers believed that the pressure of medical insurance funds and the abundance of medical insurance service supply are important determinants affecting the pooling process [1]). The State Council issued opinions of integrating urban and rural basic medical insurance systems in 2016 (GF No. 2016-3), and local governments immediately conducted a trial of IMIS. Integrated Medical Insurance System (IMIS) refers to the basic medical insurance for urban and rural residents after merging New Rural Cooperative Medical Service (NRCMS) with Urban Resident Basic Medical Insurance (URBMI). Its original intention was to promote the equality of medical security between urban and rural areas, different incomes, and different regions. Medical insurance integration evolved slowly, which derived from the imperfect policies

and receipt time. The imperfect policy means that procedures do not guide and motivate people enough, which will gradually improve with the development of medical insurance integration. Receipt time means residents have a long time to accept and turn to the new medical insurance. The situation, we now believe, puts forward certain requirements for medical insurance policy and requires targeted research on current problems. It is necessary for the government to speed up the process of IMIS and actively guide the public in this process, whether it is to improve the equity of medical treatment among residents or to improve the problem of large gap of medical resources between regions.

At present, studies on the implementation process of integrated medical insurance are not sufficient, and most of them focus on the effect of the integration policy [2–6]. There are limitations of qualitative and simple analysis on the study of medical insurance integration. Qualitative literature analysis was used to analyze the development of medical insurance integration [7]. The literature evaluating IMIS sustainability compare the sustainability of “single-standard” and “multi-standard”, which showed that the sustainability of “multi-standard” is better than “single-standard”, and the fund is less sensitive to the reimbursement ratio and medical expenditure in the “multi-standard” framework [8]. However, the literature did not analyze how to promote the development of IMIS by using the “multi-standard” mode. There are almost no quantitative studies on the influencing factors of the residents’ participation in IMIS, and there is no literature for quantitative estimation of how each factor affects the residents’ participation in IMIS.

Based on the participation decision theory of medical insurance, individual health factors, individual characteristics, social and economic status, family size, medical access and insurance policy will all affect individual insurance choice. From the perspective of government departments, it is a major concern to consider how insurance policy affects individual insurance choice. It will also provide some reference for other developing countries’ insurance policies. This paper is interested in how insurance policy factors affect insurance participation. Policy factors, or insurance system Settings, will affect individuals’ insurance decision in two ways. First, the trust theory holds that people are more convinced of the medical system, making them more likely to join medical insurance. Political and institutional factors affect medical insurance participation [9]. Many basic medical insurance have a waiting time for new members before they may accept the insurance [10]. This feature may create mistrust about the new insurance and negatively affect enrolment. Therefore, the policy will affect an individual’s information and view of insurance, and then affect whether an individual participates in the insurance. On the other hand, whether to participate in insurance depends on an individual’s cognitive level. The implementation of new insurance will cause individuals to deviate from their original experience level, which requires policies to produce certain incentive measures for individual behaviors. The status quo bias is similar to the endowment effect. Studies suggest that consumers prefer the status quo they are familiar with instead of undergoing an unknown, innovative medical procedure [11]. Whether the size and composition of the insurance correspond to people’s needs will also affect their enrolment decision [10].

Therefore, based on the above theoretical assumptions, the financing mode of IMIS policy will also affect individual insurance participation decisions. There are two IMIS financing modes, “single-standard” and “multi-standard”, which means each region can put forward the unified standard or divide different standards for IMIS raising money. Dividing different standards can mean that insurance contributions connect with treatment according to actual situations in different regions. The financing method of “multi-standard” can meet the diversified medical insurance needs of residents, win more trust from residents, and guide more residents to participate in overall medical insurance.

A rigorous and systematic analysis of the impact of research policy on the process of IMIS, however, is hindered by a number of problems. The first is limitations of data, such as there are few databases that can track the survey of residents’ participation in IMIS. The policy was implemented late, and many databases have yet to include this insurance survey. The central and local governments issued numerous policies in 2016, which just getting started significantly increasing the pilot of IMIS (One study showed

that by the end of 2016, 27% of regions (prefecture-level cities and municipalities) in China had spontaneously completed integration [6]). So far, IMIS has entered a period of rapid development, and the rate of joining pool insurance has dramatically increased (At present, the integrated medical insurance has not been fully covered, mainly due to the segmentation of medical insurance management, the repeated insurance participation caused by the disunity of information system, and the partially subsidized insurance participation in the registered residence place by the government [12]. These problems are also being actively improved [13]). The China Health and Retirement Longitudinal Study (CHARLS) database used in this article contains this problem and is a large sample of trace data, which is ideal for analyzing this problem. Once the database is in place, quantitative analysis of the impact of financing policies on insurance participation remains very challenging. Based on individual whether to participate in the province as a whole health care, participate in the plan as a whole when adopting what kind of financing policy may encounter sample selection, different provinces affected by various factors, different financing ways not randomized, so it is possible that generally the regression results as there is not completely caused by grouping results bias, false correlation. Sample selection bias aside, we also encountered the problem of establishing a causal relationship between financing policies and insurance participation when many other unobserved features could confuse our inference.

This paper uses data from the CHARLS database in 2015 and 2018, during the rapid development of the integration policy. Because two groups are selected before and after implementation, which is in 2015 and 2018. Therefore, this paper can adopt DID regression to explore the causal effect (The same approach is also used in several papers to measure the causal impact of a project by using differences in project intensity and another dimension [14,15]). On the one hand, we supplemented the literature on exploring the influencing factors of the integrated medical insurance; on the other hand, we adopted DID analysis to solve the endogenous problem and deeply quantified the influence of institutional factors on the decision to participate in the integrated medical insurance.

The structure of this paper is as follows. Section 2 summarizes the theoretical and policy background, explaining the medical insurance decision-making theory and IMIS. Section 3 describes the data and empirical model, explaining this paper's sample source, variable selection, and empirical strategy. Section 4 presents the analysis of empirical results from baseline regression, DID regression, and heterogeneity analysis. The discussion and concluding remarks form the final section.

2. Theoretical Background and Policy Background

2.1. Theoretical Background

The following are the theoretical assumptions involved in the insurance decision-making problem, which is the theoretical basis of this paper.

Table 1 is the theory of consumers' insurance decisions [16]. The first column is the type of theory involved, followed by the theory's motivation, the effect of enhancing purchase, and reducing purchase. Table 1 is the theory of consumers' insurance decisions. The first column is the type of theory involved, followed by the theory's motivation, the effect of enhancing purchase as follows:

The first is the consumer theory under the perfect information hypothesis. Consumers generally aim at utility maximization and consume according to insurance premiums, income, and preferences. Income, premium level, risk aversion, and other conditions will impact the insurance rate, so we added these variables in the regression below.

The second is the expected utility theory, which is the expected utility maximization theory based on imperfect information. Consumers seek to maximize their expected utility, and as uncertainty grows, they are more likely to purchase health insurance. According to the conceptual model of health insurance, whether to purchase insurance depends on the characteristics of individuals and families [17]. Consumers with credit constraints in the future will also sacrifice their current interests to buy insurance to avoid risks [18]. Physiological characteristics and economic level will primarily affect their risk prefer-

ence, so this paper adds control variables representing physiological and socioeconomic status characteristics.

The state-dependent utility theory pursues the maximization of expected utility, which means that individuals generally decide whether to participate in insurance according to their health status. The theory believes that there is an adverse selection problem in insurance participation. Studies on adverse selection from the New Rural Cooperative Medical Service (NRCMS) show that individuals with chronic diseases are more likely to purchase medical insurance [19,20]. Consequently, health status, chronic disease status, and other variables were added to the control variables.

Expectation theory refers to the idea that individuals weigh benefits and risks; the greater the probability of loss, the greater the likelihood of purchasing insurance. This means that individuals decide whether to participate in insurance according to their current and expected health conditions. However, some surveys suggest that the decision to join medical insurance is not influenced by income and premium but by the expected return in case of illness [21]. Personal habits, illness, disability, and other issues will affect private future medical care conduct, so personal habits, disability, cancer, and other variables are used as regression control variables.

Table 1. Theories of decision-making applied to the health insurance context.

Theories	Motivation	Effects Predicting Purchase of Insurance
Consumer choice	Utility maximize	High income, low premium
Expected utility	Maximization expected utility through certainly	High uncertainty, risk aversion
State-dependent utility	Maximization expected utility through uncertainly	weak health and anticipate high insurance pay-off
Prospect	Prospect of gain in reference to risk level	Prospect of loss in reference to risk level is certain
Cumulative prospect	Prospect of gain probability of illness	Over-weighting small of illness
Endowment/Status quo/veil of experience	Higher utility versus reference point	Insurance benefits higher than costs of insurance and of giving up user fees
Regrets and disappointments	Regret and disappointment are minimized	Loss aversion
Endowment theory	Higher utility relative to the reference point	benefit is higher than cost plus the premium
Poverty	Utility maximization	Near the poverty line, high risk aversion
Trust theory	Utility maximization	Strong social capital; Trust in insurance system

Source: Schneider, 2004.

Cumulative prospect theory combines state-dependent utility and expectation theory, which determines whether an individual is insured or not according to the probability of illness. If the likelihood of illness is higher, the individual is more likely to buy medical insurance. Studies show that it is possible to buy insurance when illness probability is low, but poor individuals tend to underestimate the likelihood of illness and choose not to purchase insurance [16]. The variables involved in this theory have been described in state-dependent utility theory and expectancy theory.

The endowment/status quo/veil of experience theory believes that people prefer the current status quo and do not want to change, so new insurance types need a certain amount of promotion time and excellent promotion methods. Especially for groups with low

education, insurance-related information should be popularized to encourage insurance participation. The logit regression was used to investigate the determinants of purchasing private insurance in Chinese cities. It showed that college-educated people with higher incomes were more likely to purchase private insurance [22]. Thus, education level variables were added to control individual insurance cognition levels. Part of this study's theoretical source is the status quo preference theory. The scope of our sample survey, individuals 45 years and above, had a generally low education level. Because they prefer the status quo, the sample uses the original insurance type. New insurance types, namely IMIS, are less known; individuals are reluctant to change their insurance and require incentives to encourage migration to IMIS.

The regrets and disappointments theory holds that people hate regrets and disappointments, so they tend to be conservative to minimize their passive feelings. Individuals are more likely to enroll if they have a high fear of getting sick or a high risk of getting sick. To this end, we selected variables to control for health status and lifestyle.

Endowment theory holds that whether the poor participate in health insurance generally depends on the accessibility to health services, and higher accessibility will increase the probability of their participation. The survey results on Chinese NRCMS show that participation depends on the cost and accessibility of medical services [23]. Therefore, we selected variables to control for access to health care.

Poverty theory assumes people pursue utility maximization, and poorer individuals are more risk-averse, so they are more willing to participate in insurance. However, there is a situation that individuals will not participate in insurance if they are too poor to afford the insurance premium. Thus, the present conclusions regarding the influence of socioeconomic status on insurance participation are inconsistent. Some literature finds that enrollment decisions are related to income [24–26]. Some literature believes that insurance participation decisions have nothing to do with income [21]. This paper controls for three variables representing socioeconomic status based on this theory: personal income, education level, and work status.

The trust theory holds that people are more convinced of the medical system, making them more likely to join medical insurance. Political and institutional factors affect medical insurance participation [9]. The trust theory is also a theoretical source for this paper's research purpose. "Single-standard" and "multi-standard" are both policies modes affecting individuals' trust and evaluation for the medical system, which then affects their enthusiasm for insurance.

Finally, some literature believes that family size will affect individuals' purchase of medical insurance. In the investigation of the Rwanda project, for example, families with a population greater than or equal to five have a higher probability of participating in basic medical insurance [27]. Therefore, this paper chooses the number of people in a family as a representative family size variable to add to the regression equation.

2.2. Policy Background

Urban Employee Basic Medical Insurance, Urban Resident Basic Medical Insurance and New Rural Cooperative Medical Service jointly constitute China's basic medical security system in the previous stage. They cover different groups, financing and subsidy levels and security levels, but the three kinds of insurance cover almost 99% of China's population. Urban Employee Basic Medical Insurance covers the employees of all employing units in cities and towns, and Urban Resident Basic Medical Insurance is used to protect non-employed people in cities and towns, such as primary and secondary school students, children and other non-medical residents. New Rural Cooperative Medical Service mainly provides medical security for rural residents, which focuses on the overall planning of serious diseases, and generally only reimburses hospitalization expenses, not outpatient expenses. Urban and rural two kinds of resident insurance exist because of Chinese medical insurance system is set separately. The implementation of the integration policy aims to change the existing urban and rural medical insurance system. The separation of the medical insurance system means that residents can only passively join corresponding security

systems according to their household registration and province; urban workers join URBMI, while rural residents join NRCMS. In this way, the medical insurance system solidifies existing urban and rural identities. The urban and rural medical insurance integration policy is an effective means to solve this problem.

Integrated Medical Insurance System (IMIS) refers to the basic medical insurance for urban and rural residents after merging New Rural Cooperative Medical Service (NRCMS) with Urban Resident Basic Medical Insurance (URBMI). Its original intention was to promote the equality of medical security between urban and rural areas, different incomes, and different regions. By breaking the division between urban and rural areas of medical insurance and unifying the list of reimbursable drugs, IMIS narrowed the gap between urban and rural medical insurance and improved health equity [28]. After insurance pooling, the financing level of the original NRCMS personnel increased by 108.51%, the number of reimbursed drugs increased by 163.63%, and the fund expenditure increased by 50.84%, which affected improving the medical insurance welfare level and health level [29]. Urban-rural IMIS promotes equity in health services, realizes equity in individual rights and interests, and increases residents' sense of gain and fairness [30]. Medical insurance integration insists on achieving unified management in six aspects: covered population, financing standard, insurance scope, medical insurance directory, fixed-point management, and residents' fund management.

Reviewing the history of medical insurance integration, The State Council put forward the "New Medical reform" in 2009, which clearly proposed the goal of gradually realizing the integration of medical insurance; In 2012, the report to the 18th National Congress of the Communist Party of China gave instructions to promote the development of urban and rural social security systems in an integrated manner. In 2013, the Decision on comprehensively deepening reform mentioned promoting the exchange of factors of production between urban and rural areas and equalizing basic public services between urban and rural areas. At the fifth Plenary Session of the 18th National Congress of the Communist Party of China in 2015, Central Committee explicitly proposed to realize urban and rural medical insurance pooling during the 13th Five-Year Plan period. On 12 January 2016, the State Council issued opinions of integrating urban and rural basic medical insurance systems in 2016 (GF No. 2016-3). It is stated in the Opinions that Urban Resident Basic Medical Insurance should be integrated with New Rural Cooperative Medical Service, and then a unified basic medical insurance system for urban and rural residents should be established. The introduction of the system is to stipulate the basic policy of the overall medical insurance, and at the same time to speed up the implementation of Integrated Medical Insurance System (IMIS).

For now, IMIS is constantly pushing, but there are many difficulties in the process. The progress of integration in most regions is slow. It is necessary to overcome the gap in medical resources between urban and rural areas to improve the integration policy, which is difficult to achieve in a short time [13]. The difficulty of overall planning is reflected in the unreasonable allocation of original medical resources, partly due to the irrational existing medical system.

To ensure the successful development of the integration policy, the central and local governments put forward the "single-standard" and "multi-standard" financing modes. IMIS financing is divided into two kinds. At the beginning of the overall development, one type put forward the unified financing standards of provinces and cities to require all participating residents to comply. The other type is divided into multiple levels of payment, which are linked with security levels. Many provinces and cities adopted the two kinds of financing methods. "Single-standard" is financing means and the final goal, and "multi-standard" is much more a means of transition policy to perform. "Multi-standard" is regarded as a solution that can work out urban-rural health care division, low overall level, and imbalanced regional development by meeting the personalized needs of different groups and encouraging more people to participate in IMIS. Its significance lies in as interim policy to solve the problem that two insurances merge. According to the characteristics and goals of the two financing modes, they help improve the integrated medical insurance participation rate. Additionally,

because “multi-standard” meets diverse needs, its incentive effect on the unified medical insurance is likely higher than “single-standard”.

According to endowment/Status quo/veil of experience theory in medical insurance decision theory, people tend to maintain the status quo because they think deviating will do more harm than good [16]. Based on this theory, implementing the integration policy is very difficult; it needs to break the original insurance model and have people accept the new one. Therefore, providing enough incentives and conversion time is necessary to achieve a stable and rapid system transition. This requires corresponding policies to improve constantly, and in-depth discussions must be conducted on relevant policies. There are few existing studies on participating in IMIS, and only a little more research delves into the different effects of two financing modes on participation in IMIS. This problem affects the operation and development path of IMIS, which has important research significance, and, as such, this study explores and puts forward corresponding suggestions.

3. Data and Empirical Methods

3.1. Data

The data used in this paper consists of two parts. Part of the data is from CHARLS. The other part is extracted from the announcements issued by central and local governments and medicare department websites, such as the Central People’s Government, the provincial/municipal people’s government, and the provincial/municipal Medicare Security Bureau. Among them, CHARLS mainly extracted the dependent variable—whether an individual participated in IMIS in the survey year, and other control variables, including health factors, personal characteristics, socioeconomic status, family size, access to health care, and other variables. Other variables, including financing modes and implementation of the comprehensive pilot, were extracted from announcements of departments at all levels. The data from the two parts were consolidated according to provinces and cities.

We investigated people aged 45 and above from the population in the CHARLS database. The microdata included personal and family information from 2011, 2013, 2015, and 2018 from four national surveys and 10,257 households. The research surveyed personal characteristics, health, work, wealth, and other information, such as family socioeconomic status, including whether individuals took part in IMIS in the survey year; thus, the data is very suitable for our study. Most provinces started to implement IMIS after the State Council issued opinions about integrating urban and rural residents’ basic medical insurance in 2016. Many provinces began IMIS on 1 January 2017. Although some provinces issued relevant policies and plans for medical insurance integration before 2015, the actual implementation time was after 2015. As such, we chose the data from 2015 and 2018 to study what factors affected participation decisions of IMIS.

The sample processing method in this paper is as follows: firstly, because IMIS is the combination of NRCMS and URBMI, we exclude the samples participating in Urban Employee Basic Medical Insurance and selected individuals who participated in New Rural Cooperative Medical Service (NRCMS), Urban Resident Basic Medical Insurance (URBMI), and IMIS in 2015 and 2018. Then, data is deleted according to the missing values of the main control variables. The control variables are mainly divided into personal, economic, political environment, and accessibility to health services. The selection of variables is explained in the following variable selection section. Finally, the study reserves 28,936 total samples.

This paper extracted policy variables from the websites of departments at all levels. For robustness, this paper extracted the financing modes adopted by each province as the main research variable. We also extracted whether the province implemented the comprehensive medical reform pilot as the policy environment control variable. These variables were used to control the interference of other policies in the same period to accurately study the influence of different financing modes on the insurance participation rate. The comprehensive medical reform trial refers to the reform attempt carried out by the central government at the same time as the IMIS implementation. In 2015, Jiangsu, Anhui, Fujian, and Qinghai took the lead in piloting comprehensive medical reform at the provincial level. They explored the reform of public hospitals and graded diagnosis,

generating a batch of typical experiences and serving as a leading example for the whole situation. Then, as the second batch of comprehensive medical reform pilot, in 2016, the State Council Leading Group for Deepening the Reform of the Medical and health system decided to add seven provinces and cities, including Shanghai, Zhejiang, Hunan, Chongqing, Sichuan, Shaanxi, and Ningxia Hui Autonomous Region.

3.2. Variable Selection

The explained variable in this paper is “whether or not individuals participate in IMIS”. The explanation of IMIS in the questionnaire was “the unified medical insurance system for urban and rural residents after the merger of New Rural Cooperative Medical Service (NRCMS) and Urban Resident Basic Medical Insurance (URBMI).

This paper mainly studies the influence of “single-standard” and “multi-standard”, therefore, two policy dummy variables were set. The provinces and cities that implemented IMIS have promulgated the corresponding financing standards. Generally speaking, there are three incompatible situations in each province: “single-standard”, “multi-standard”, and no pooling. If a province or city implements “single-standard”, the residents’ financing mode variable “single-standard”, in that province or city is set as 1, and the other variables are 0. If a province or city implements the “multi-standard” policy, the “multi-standard” variable of that province’s or city’s residents is set to 1; the other variables are set to 0. In addition, from 2015 to 2018, the first category provinces and cities started implementing IMIS. The “single-standard” and “multi-standard” variable values can be set according to the policies issued during this period. The second category has policies released before 2015, and we set them according to the 2015–2018 policies. The third category is the policy changes after 2018, such as unifying “multi-standard” into “single-standard”. We still take 1 for “multi-standard” variables and 0 for “single-standard” variables during 2015–2018.

The control variables are mainly divided into personal, economic, political environment, and accessibility to health services. The selection of variables is based primarily on the insurance participation decision theory described above. Personal factors include gender, age, marital status, and health status. Economic factors include income, education, employment status, and family size. The political environment factor is whether the province joins the comprehensive reform pilot. The accessibility factor selected the distance an individual traveled to the nearest hospital. Health status includes personal self-assessment of health, ranging from 1 to 5; the larger the value, the higher the self-assessment health level of the investigated. Other factors include health or lifestyle indicators, such as physical disability/brain damage/blindness, semi-blindness/deafness, semi-deafness/deafness, severe stuttering, whether the individual has or has had cancer, whether they smoke cigarettes, and whether they drink alcohol more than once a month. Income in economic factors refers to the per capita income level of the family, and education level is divided into illiteracy, primary school and below, junior middle school, and high school education or above. Employment status includes working and not working, including being laid-off, retired, and long-term not working. Family size tends to have a specific impact on a person’s family status, leading to different decisions on individual insurance participation, so it is also a control variable in this study. This paper avoids the influence of different administrative environments in different provinces and cities at the same time on this study by selecting, as a control variable, whether provinces implement comprehensive reform pilot during the implementation of IMIS.

3.3. Descriptive Statistics of Variables

The results of financing modes implemented in various provinces and cities are shown in Table 2 (China has 23 provinces, five autonomous regions and four municipalities directly under the Central Government. The remaining provinces are all covered by CHARLS, except Hainan, Taiwan, Tibet autonomous Region, and Ningxia Hui Autonomous Region).

Table 2. Provinces and cities of decision-making applied to the health insurance context.

Financing Way	Contains the Provinces and Cities
“single-standard”	Yunnan, Fujian, Hebei, Jiangxi, Beijing, Gansu, Guangdong, Liaoning, Jilin, Guangxi, Anhui, Hubei, Shaanxi, Henan, Hunan, Guizhou
“multi-standard”	Sichuan, Xinjiang Uygur Autonomous Region, Inner Mongolia Autonomous Region, Jiangsu, Chongqing, Heilongjiang, Shanxi, Shanghai, Tianjin, Zhejiang, Shandong

Note: Data come from government websites. Because China Health and Retirement Longitudinal Study (CHARLS) only conducts a sampling survey and does not include all provinces and cities, the classification in this paper only focuses on provinces and cities included in CHARLS.

Table 2 shows the implementation of IMIS financing modes of provinces and cities, which were extracted from all levels of government and departmental websites. Among them, the documents of some provinces were not clear, including Xinjiang Uygur Autonomous Region, which issued a notice in 2016 to allow the retention of certain transitional policies in the stage of smooth integration. Although the policy does not explicitly state implementing “multi-standard”, it does allow the retention of transitional policies, so it is classified as “multi-standard” in Table 2. Additionally, according to an announcement, Shanghai requires that from 2016, NRCMS be merged with URBMI, and original NRCMS participants could voluntarily choose to participate in urban and rural residents’ medical insurance. However, Shanghai did not specify the level of payment but could choose whether to participate in IMIS. This paper is also classified as “multi-standard” in Table 2. This paper will conduct sensitivity tests for these possible errors, and regression will be conducted after deleting and reclassifying these uncertain categories.

The statistical description of each variable in this paper is as follows.

As shown in Table 3, the IMIS participation rate in areas with “single-standard” and “multi-standard” is much higher than in the other regions. Additionally, the probability of residents participating in IMIS in the provinces carrying out “multi-standard” is higher than in provinces with “single-standard”.

Table 3. Descriptive Statistics.

Variable	Total Sample	Single-Standard	Multi-Standard	The Rest
participate in IMIS (1 = yes, 0 = no)	0.091	0.129	0.215	0.027
“single-standard” (1 = yes, 0 = no)	0.280	1.000	0.000	0.000
“multi-standard” (1 = yes, 0 = no)	0.191	0.000	1.000	0.000
Self-reported health	2.971	3.035	2.895	2.964
Per capita income	7.440	8.537	8.615	6.434
Age	60.150	60.900	61.496	59.267
Gender (0 = male, 1 = female)	0.543	0.546	0.548	0.539
Marriage (0 = no spouse, 1 = spouse)	0.873	0.868	0.860	0.881
Primary school	0.659	0.706	0.720	0.612
Junior middle school	0.191	0.212	0.214	0.171
High school or above	0.066	0.082	0.065	0.058
Have job (1 = yes 0 = none)	0.274	0.307	0.314	0.243
Have disability (1 = yes 0 = none)	0.128	0.126	0.115	0.134
Have cancer (1 = yes 0 = none)	0.013	0.016	0.018	0.011
smoking (1 = yes 0 = no)	0.053	0.039	0.038	0.067
drinking (1 = yes 0 = none)	0.333	0.327	0.328	0.338
Family size	2.713	2.163	2.093	3.228
Distance to hospital (km)	40.399	30.916	37.014	46.643
comprehensively reform (1 = yes, 0 = no)	0.254	0.265	0.493	0.163
Sample size	28,936	8107	5527	15,302

3.4. Empirical Method

3.4.1. Baseline Regression

This paper analyzes how different financing modes affect the choice of insurance by adopting the regression to test. Since participation in IMIS is a discrete variable, we use logit and probit regression models to test. The model is as follows:

$$Probability(IMIS = f("single - standard", "multi - standard", control variables)) \quad (1)$$

where “IMIS” represents an individual’s insurance participation status, namely, “whether individual participates in IMIS”. This variable takes 1 if the individual participates in IMIS and takes 0 if not. The main research variables are two kinds of financing modes: “single-standard” and “multi-standard”. The control variables refer to other factors affecting whether an individual participates in IMIS, mainly indicators such as personal characteristics, social and economic status, health status, personal living habits, family size, access to health care, and policy environment factors. However, this is only to explore the correlation between the financing modes and participation decision of insurance. To analyze the causal relationship, we adopt a DID model to solve the endogeneity.

3.4.2. DID Regression to Solve the Endogeneity

Different provinces adopt different financing modes because of many factors, rather than random grouping, so the regression results of the logit or probit are likely to be biased due to incomplete grouping. Therefore, we used the method of multiple groups of DID to explore its causal effect [14]. There were two differences in the exploration process. One was the effect difference caused by years, and the other was the difference in financing modes between provinces and cities. The regression equation is as follows: This is the example 2 of equation:

$$Insurance_{ijk} = c_1 + \alpha_{1j} + \beta_{1k} + (M_j Y_i) \gamma_1 + \epsilon_{ijk} \quad (2)$$

$Insurance_{ijk}$ is whether individual i participates in IMIS in province or city j in year k . It equals 1 if an individual i participates and 0 for non-participation. c_1 is constant, and α_{1j} is the fixed effect of the province, β_{1k} is the fixed effect of year, M_j is the pooling mode of j province, and Y_i represents whether individual i was in 2018.

3.4.3. Heterogeneity, Sensitivity, and Further Exploration

The implementation of IMIS involves the merger of the NRCMS and the URBMI, and an individual’s household registration status will directly determine which medical insurance system they joined before the merger. On the one hand, both the financing and security levels of URBMI are much higher than the NRCMS. On the other hand, the health care after IMIS must be no lower than the original insurance level. Therefore, IMIS’s financing and guarantee level are closer to URBMI, and there is a large gap between IMIS and NRCMS. As a result, the influence of financing modes on insurance participation decisions will be affected by household registration. This paper adds the interaction item of household registration and two financing modes to explore the influence of urban-rural household registration on the role of the two types of financing modes. Policy effect will be affected by income level, policy environment, and regional economic development level. For robustness and to explore the heterogeneity of the influence of the two types of policies among different groups, group regression was performed on the samples. Group one divides the income group according to the top 20% of income, 20–40%, 40–60%, 60–80%, and the bottom 20% of five groups (When dividing income groups, per capita household income is used as the dividing standard). The second group is divided into two groups according to whether the pilot medical reform was carried out, and the policy environment between the two groups may be different. According to the regional economic development level, group three is divided into the eastern, central, and western regions. The regional funding level is in accordance with the local economic condition defined funding level, thus showing reductions on the eastern, central, and western financing standards [31]. This study will explore how regional disparity influences the stimulation of the two financing modes.

Because there is uncertainty when dividing provinces and cities to implement “single-standard” and “multi-standard”, this paper takes a sensitivity test. For sample exclusion

and reclassification of provinces and cities with uncertain classification, regression was performed to solve the possible errors caused by grouping methods. In addition, this paper excluded the samples in provinces and cities without pooling in 2018 to explore the impact difference between pooling financing modes.

4. Analysis of Empirical Results

4.1. Baseline Regression

Table 4 shows the degree of influence of various factors on whether middle-aged and elderly groups participate in the decision-making of medical insurance integration. To accurately explore the role of each influencing factor, five columns of regression are included in Table 4. Column (1) uses a logit regression model, added to the return of the factors in the “variable” column. These factors include the two kinds of financing ways of institutional factors, and the self-reported health disability health factors, such as family per capita income and work and other social and economic characteristics, factors, such as age and marital status as personal characteristics, and smoking and alcohol as personal life habits (Smoking included both current and former smokers, while heavy drinking was defined as drinking at least once a month). The variables used in column (2) are consistent with those in column (1), and probit model regression is adopted. In column (3), the factor of the family size, represented by family size, is added to the variable column. In column (4), the accessibility to health services variables, represented by the hospital’s distance, are added based on the previous column. Finally, in column (5), whether a province implements comprehensive pilot medical reform is added as a policy environment variable. From the point of view set by the model, the R^2 of the five columns of regression is more than 10% (This paper also tried to add dummy variables of provinces and cities in the baseline regression and found that it did not affect our conclusion).

Observing the benchmark results shows that both “single-standard” and “multi-standard” have a significant positive effect on participation in IMIS, which reflects that the two financing modes improve the local insurance participation rate of middle-aged and elderly people. Currently, regions that implement IMIS generally adopt one of the two financing modes, so a positive impact is expected when implementing these two modes on individual participation in medical insurance integration. According to the observation of column (5), the proposal of “single-standard” increases the insurance participation rate of middle-aged and elderly people by 9.4%. In comparison, “multi-standard” increases the probability of insurance participation by 12.8%. This shows that the “multi-standard” transitional policy has an effect. Compared with regions that implement “single-standard”, the incentive effect of “multi-standard” on insurance participation increases by 36%, which further verifies the effectiveness of “multi-standard”.

Regression results showed that middle-aged and elderly people with higher per capita income, older age, employment, no disability, and comprehensive medical reform pilot provinces were more likely to participate in IMIS. Higher per capita household income and employment generally imply a higher socioeconomic status and a broader source of information, which helps individuals receive new and higher levels of insurance. Disability status can affect an individual’s financial situation, information access, and, ultimately, insurance choice. Implementing a comprehensive medical reform pilot implies the policy environment in these regions is more favorable for medical reform and promoting individual insurance participation. Among the other factors, the Self-reported health coefficient is negative but not significant, indicating that the adverse selection problem of middle-aged and elderly people participating in IMIS is not serious. Variables, such as gender, marital status, education level, family size, cancer, smoking, and drinking, were not significant. In addition, the accessibility variables represented by distance to the hospital were also not significant. The problem with access to health services didn’t affect the decision of middle-aged and elderly people to participate in IMIS.

Table 4. Effects factors of participation in IMIS (baseline).

Variable	Logit	Probit	Logit (Control Family Size)	Logit (Control Access to Health Care)	Logit (Control Other Policy)
“single-standard”	0.0925 *** (23.58)	0.0967 *** (24.51)	0.0947 *** (22.46)	0.0947 *** (22.44)	0.0942 *** (22.32)
“multi-standard”	0.1280 *** (32.64)	0.1403 *** (34.60)	0.1303 *** (30.68)	0.1303 *** (30.68)	0.1282 *** (29.67)
Self-reported health	0.0017 (1.34)	0.0021 (1.44)	0.0017 (1.33)	0.0017 (1.37)	0.0018 (1.42)
Per capita income	0.0030 *** (5.43)	0.0033 *** (5.62)	0.0030 *** (5.48)	0.0030 *** (5.46)	0.0030 *** (5.38)
Age	0.0007 *** (4.53)	0.0008 *** (4.40)	0.0007 *** (4.69)	0.0007 *** (4.69)	0.0007 *** (4.54)
Gender	0.0025 (0.85)	0.0027 (0.78)	0.0026 (0.88)	0.0025 (0.85)	0.0025 (0.86)
Married	0.0019 (0.50)	0.0023 (0.51)	0.0040 (0.98)	0.0038 (0.93)	0.0040 (0.98)
Primary school	0.0101 (1.27)	0.0099 (1.29)	0.0114 (1.43)	0.0115 (1.44)	0.0117 (1.46)
Junior middle school	0.0100 (1.22)	0.0090 (1.13)	0.0113 (1.38)	0.0114 (1.38)	0.0112 (1.36)
High school or above	0.0048 (0.54)	0.0029 (0.32)	0.0061 (0.68)	0.0064 (0.72)	0.0061 (0.68)
Have job	0.0151 *** (4.93)	0.0169 *** (4.77)	0.0152 *** (4.93)	0.0151 *** (4.90)	0.0149 *** (4.85)
Have disability	0.0102 ** (2.49)	0.0099 ** (2.16)	0.0101 ** (2.48)	0.0101 ** (2.47)	0.0099 ** (2.42)
Have cancer	0.0095 (0.98)	0.0121 (1.05)	0.0097 (1.00)	0.0097 (1.00)	0.0096 (0.99)
smoking	0.0003 (0.06)	0.0007 (0.10)	0.0001 (0.01)	0.0003 (0.05)	0.0001 (0.02)
drinking	0.0015 (0.51)	0.0025 (0.72)	0.0016 (0.53)	0.0016 (0.54)	0.0016 (0.53)
Family size			0.0020 (1.53)	0.0020 (1.53)	0.0021 (1.56)
Distance to hospital				0.000001 (0.06)	0.0000004 (0.02)
comprehensively reform					0.0066 ** (2.45)
constant	4.452 *** (18.89)	2.371 *** (20.20)	4.551 *** (18.59)	4.549 *** (18.51)	4.537 *** (18.46)
R ²	0.114	0.114	0.114	0.114	0.115
Sample size	28,936	28,936	28,936	28,932	28,932

Note: The table reports the marginal effect of the mean value of each variable, with T statistic in parentheses. The significance levels of 1%, 5%, and 10% are denoted by ***, **, and * respectively.

4.2. DID Solves Endogeneity

Table 5 shows the DID analysis results of the influence of the two financing modes: “single-standard” and “multi-standard”.

Table 5 shows the regression results of DID. Observing the regression results shows that both financing modes have a significant positive impact on participating in IMIS. Moreover, the influence of “multi-standard” is greater than that of “single-standard”, and the effect of “multi-standard” on improving the participation rate of IMIS is better.

4.3. Robustness and Heterogeneity Analysis

In Table 6, the interaction items of urban household registration and the two financing modes are added. One of the IMIS regulations is its treatment is higher [12] to ensure that the level of URBMI is higher than in the NRCMS (According to the fourth National Health Service Survey, the actual compensation ratio for the Urban Resident Basic Medical Insurance (URBMI) and the New Rural Cooperative Medical Service (NRCMS) was 49.3% and 33.7%, respectively). Therefore, IMIS is relatively close to URBMI, which may lead to urban hukou being more likely to participate in the integrated medical insurance. The regression

results in Table 6 also confirm this speculation. The interaction terms between urban and both “single-standard” and “multi-standard” are significantly positive, indicating that urban residents have a higher acceptance of the two financing modes, and urban household registration plays a role in promoting the play of the two financing modes. Take (5) as an example; in the areas with “single-standard”, the insurance coverage rate of middle-aged and elderly people with an urban household registry (hukou) is 4.1% higher than rural hukou. In areas with “multi-standard”, the coverage rate of middle-aged and elderly people with urban hukou is 3.0% higher than those with rural hukou. From the policy implementation perspective, convincing rural registered permanent residents to accept integrated medical insurance is difficult. As such, we should improve the security awareness of the rural population and implement the premium reduction mechanism for the key poor groups, which is also one of the policies some provinces and cities are implementing. For example, Yunnan Province released the implementation opinions on integrating the basic medical insurance system for urban and rural residents in 2016. The opinions stated that the government would give subsidies to eligible poor urban and rural residents to participate in the basic medical insurance system. In 2017, Hanzhong City in Shaanxi province issued a circular specifying that the civil affairs department should subsidize the needy.

Table 5. Effects factors of participation in IMIS (DID).

Variable	Logit	Probit	Logit (Control Family Size)	Logit (Control Access to Health Care)	Logit (Control Other Policy)
“single-standard” × 2018	0.0919 *** (21.95)	0.0953 *** (22.78)	0.0930 *** (20.49)	0.0930 *** (20.46)	0.0920 *** (20.21)
“multi-standard” × 2018	0.1296 *** (30.95)	0.1408 *** (32.79)	0.1308 *** (28.59)	0.1307 *** (28.58)	0.1278 *** (27.34)
Year fixed effect	YES	YES	YES	YES	YES
Provincial fixed effect	YES	YES	YES	YES	YES
constant	4.484 *** (18.99)	2.390 *** (20.29)	4.527 *** (18.48)	4.521 *** (18.39)	4.506 *** (18.33)
R ²	0.108	0.108	0.108	0.108	0.108
Sample size	27,919	27,919	27,919	27,915	27,915

Note: The table reports the marginal effect of the mean value of each variable, with T statistic in parentheses. The significance levels of 1%, 5%, and 10% are denoted by ***, **, and * respectively. Control variables in columns (1) to (5) are consistent with those in Table 4. The year fixed effect is the dummy variable of the year, and the Provincial fixed effect is the dummy variable of the province.

The grouping regression carried out in Tables 7–9 can test the robustness of the above results. Table 7 explored whether the two financing modes of “single-standard” and “multi-standard” play different roles among income groups. According to the regression above, the variables in column (5) of Table 4 are more comprehensive and reliable, so Table 4’s variable control and logit model in column (5) are adopted in the following regression.

Through the regression of the five sample groups, grouped by income level, the results show that both “single-standard” and “multi-standard” have a significant effect on the IMIS participation decision, and the impact of “multi-standard” is more significant than that of “single-standard”. This shows that the two financing modes can still play a larger role for the population of lower-income level, and the incentive effect of “multi-standard” is still greater than “single-standard”.

Table 6. Effects factors of participation in IMIS (Urban Interaction).

Variable	Logit	Probit	Logit (Control Family Size)	Logit (Control Access to Health Care)	Logit (Control Other Policy)
“single-standard”	0.0889 *** (22.36)	0.0925 *** (23.09)	0.0911 *** (21.34)	0.0911 *** (21.34)	0.0905 *** (21.21)
“multi-standard”	0.1256 *** (31.67)	0.1372 *** (33.30)	0.1279 *** (29.81)	0.1279 *** (29.81)	0.1256 *** (28.78)
“single-standard”×urban	0.0416 *** (6.78)	0.0513 *** (6.59)	0.0415 *** (6.77)	0.0411 *** (6.69)	0.0410 *** (6.67)
“multi-standard”×urban	0.0293 *** (4.61)	0.0382 *** (4.52)	0.0292 *** (4.60)	0.0293 *** (4.60)	0.0297 *** (4.68)
constant	4.336 *** (18.38)	2.314 *** (19.69)	4.432 *** (18.08)	4.429 *** (18.01)	4.416 *** (17.96)
R ²	0.118	0.118	0.118	0.118	0.118
Sample size	28,936	28,936	28,936	28,932	28,932

Note: The table reports the marginal effect of the mean value of each variable, with T statistic in parentheses. The significance levels of 1%, 5%, and 10% are denoted by ***, **, and * respectively. Control variables in columns (1) to (5) are consistent with those in Table 4.

Table 7. Effects factors of participation in IMIS (income group).

Group	(1) = Highest Income	(2)	(3)	(4)	(5) = Lowest Income
“single-standard”	0.1068 *** (9.78)	0.1045 *** (10.25)	0.1104 *** (12.70)	0.0883 *** (10.47)	0.0797 *** (10.57)
“multi-standard”	0.1748 *** (16.07)	0.1483 *** (14.19)	0.1194 *** (12.89)	0.1170 *** (13.55)	0.1022 *** (13.27)
constant	3.786 *** (7.99)	4.463 *** (8.93)	5.346 *** (7.69)	5.380 *** (8.90)	4.078 *** (5.98)
R ²	0.112	0.111	0.110	0.135	0.122
Sample size	5786	5786	5788	5787	5785

Note: The table reports the marginal effect of the mean value of each variable, with the T statistic in parentheses. The significance levels of 1%, 5%, and 10% are denoted by ***, **, and *, respectively. Control variables in columns (1) to (5) are consistent with those in Table 4.

Table 8. Effects factors of participation in IMIS (policy environment group).

Group	(1) Provinces with Comprehensive Reform	(2) Provinces with No Comprehensive Reform	(1)–(2)
“single-standard”	0.1396 *** (10.01)	0.0817 *** (19.73)	0.0579 (0.29)
“multi-standard”	0.2170 *** (16.38)	0.0997 *** (22.23)	0.1173 *** (14.13)
constant	4.732 *** (8.74)	4.466 *** (15.10)	
R ²	0.125	0.100	
Sample size	7362	21570	

Note: The table reports the marginal effect of the mean value of each variable, with the T statistic in parentheses. The significance levels of 1%, 5%, and 10% are denoted by ***, **, and *, respectively. Control variables in columns (1) to (5) are consistent with those in Table 4.

The provinces and cities are divided into two groups according to each region’s policy environment. We found no significant differences between the effects of “single-standard” in comprehensive pilot provinces and other provinces through the group regression. However, the “multi-standard” effects have significant differences between comprehensive pilot provinces and other provinces; the results show that “multi-standard” is more effective in the pilot provinces.

Table 9. Effects factors of participation in IMIS(region group).

Group	(1) Eastern	(2) Central	(3) Western	(1)–(2)	(3)–(2)
“single-standard”	0.1259 *** (13.74)	0.0708 *** (12.81)	0.0879 *** (12.12)	0.0551 (0.1322)	0.0171 (0.4686)
“multi-standard”	0.1887 *** (22.09)	0.0398 *** (4.83)	0.1145 *** (14.95)	0.8472 *** (31.09)	0.0747 *** (21.80)
constant	4.369 *** (11.62)	5.934 *** (9.45)	3.647 *** (8.71)		
R ²	0.140	0.107	0.104		
Sample size	9389	9661	9882		

Note: The table reports the marginal effect of the mean value of each variable, with the T statistic in parentheses. The significance levels of 1%, 5%, and 10% are denoted by ***, **, and *, respectively. Control variables in columns (1) to (5) are consistent with those in Table 4.

Table 9 shows that the impact of the two modes is robust within different regions. However, compared to the size of the two policies playing a role, it can be seen that for eastern and western regions, the effect of “multi-standard” is still higher than “single-standard”. Additionally, comparing the coefficients of the three regions, the effect of the “multi-standard” policy in the central region is significantly less than that in the eastern and western regions. So, for the central region, the effect of “multi-standard” is lower than the effect of “single-standard”, which shows that in the central region, “multi-standard” doesn’t play a significant role due to progress lagging or other factors.

4.4. Sensitivity Analysis

Given the unclear division of financing modes of Xinjiang Uygur Autonomous Region and Shanghai, on the one hand, we delete the two provinces to conduct a sensitivity test. On the other hand, we reclassify two provinces into “single-standard” to test. The conclusion is consistent with the findings above. Both “single-standard” and “multi-standard” can significantly improve the IMIS participation rate for middle-aged and elderly people, and “multi-standard” has a higher incentive effect than “single-standard”.

4.5. Further Analysis of the Impact of Integration Modes

To further verify the difference between the two financing modes, we only retain the samples that implemented IMIS in 2018 to study whether there is a significant difference in the impact of the two financing modes, “single-standard” and “multi-standard”, on the insurance participation rate.

By observing Table 10, this paper finds that the regression results of columns (1)–(3) all indicate that “multi-standard” can significantly improve the participation probability of IMIS by 3.7%, as compared with “single-standard”. Significant differences exist between the two financing modes, as listed in the regression of urban interaction terms in column 3 of Table 10. The results show that urban household registration contributes to the incentive effect of “multi-standard”, which indicates that attention should be given to the imbalance of urban and rural medical resources.

China’s medical reform continues, and medical insurance integration is an essential part of it. The promotion of the integration policy faces the problems of imperfect systems and unequal distribution of medical resources, leading to insufficient incentive mechanisms and the slow implementation of medical pooling. Currently, the research on IMIS focuses on the analysis of its effect, but there are few studies on the policy rationality and policy implementation progress. Under the theoretical decision-making framework of medical insurance, this paper quantitatively studies the incentive effect of two financing modes, “single-standard” and “multi-standard”, on the participation rate of IMIS by using CHARLS data from 2015 and 2018. The study draws the following conclusions. (1) Both “single-standard” and “multi-standard” are conducive to improving the IMIS participation rate. Specifically, carrying out “single-standard” increases the participation probability of middle-aged and elderly people by 9.44%, while “multi-standard” increases their participation probability by 12.8%. (2) Compared with the regions that implement “single-standard,” the

incentive effect of “multi-standard” is increased by 36%. Additionally, the positive effect of “multi-standard” for IMIS participation rate is greater than that of “single-standard.” (3) From the perspective of household registration, the effect of the two financing modes on improving the IMIS coverage of middle-aged and elderly people in urban areas is significantly higher than that in rural areas. Compared with other regions, implementing “multi-standard” in the central region has a lower effect on improving the IMIS participation rate of middle-aged and elderly people.

Table 10. Effects factors of participation in IMIS (pooling sample).

Group	(1) Baseline Regression	(2) DID	(3) Urban Interaction
“multi-standard”	0.0371 *** (11.86)		0.0340 *** (10.53)
“multi-standard” × 2018		0.0371 *** (11.86)	
“multi-standard” × town			0.0327 *** (4.63)
Year fixed effect		YES	
constant	981.30 *** (19.79)	4.435 *** (17.95)	983.317 *** (19.82)
R ²	0.104	0.104	0.105
Sample size	27,036	27,036	27,036

Note: The table reports the marginal effect of the mean value of each variable, with the T statistic in parentheses. The significance levels of 1%, 5%, and 10% are denoted by ***, **, and *, respectively. Columns (1) to (3) control variables take the column (5) settings from Table 4. The sample of regions participating in the overall planning does not include individual samples from provinces and cities that did not participate in the pilot pooling in 2018.

On the one hand, we supplemented the literature on exploring the influencing factors of the integrated medical insurance; on the other hand, we adopted DID analysis to solve the endogenous problem and deeply quantified the influence of institutional factors on the decision to participate in the integrated medical insurance. Of course, there are still some problems in this paper. Due to the characteristics of the database used, throughout the study we only present results concerning the middle-aged and elderly groups. Whether the conclusions can be extended to other age groups will require further research. The integration pilot of medical insurance is increasing throughout the country, and there are growing numbers of research related to the integration, which will contribute to a high-quality study of the urban and rural integration and influence of inequity of medical service.

From the perspective of welfare economics, providing a “multi-standard” financing mode, equivalent to offering more choices, is a Pareto improvement and conducive to improving residents’ welfare. Through “multi-standard”, voluntary participation in IMIS means higher expected utility of individuals participating in IMIS, which improves individual welfare.

Based on the above conclusions, this paper believes that “multi-standard” is a more effective financing mode than “single-standard” for improving the participation rate of IMIS. For provinces and cities that have not implemented overall planning, it is safer to adopt the policy of “multi-standard” for transition. For provinces and cities that have implemented “multi-standard” for some time, it is effective to hold a “multi-standard” policy to meet the diverse needs of the different groups. This can promote coordinating the distribution of medical resources between urban and rural areas, different income levels, and different regions. The IMIS participation rate can also improve, smoothly transitioning the overall integration policy to “single-standard”.

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Abbreviations

The following abbreviations are used in this manuscript:

IMIS	Integrated Medical Insurance System
CHARLS	China Health and Retirement Longitudinal Study
DID	Difference-in-Difference
NRCMS	New Rural Cooperative Medical Service
URBMI	Urban Resident Basic Medical Insurance

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