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The Financing Mechanism of Long-term Care Insurance in China -- Cites the Second Pilot Areas for Long-term Care Insurance

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Abstract

The second pilot projects of long-term care insurance in China are gradually carried out. Relying on the policy text and DEA efficiency analysis method, this paper sorts out and divides the financing mechanism of long-term care insurance from the coverage, source, channel, structure, mode and standard, and uses the data obtained to calculate the financing efficiency in the pilot area. The study found that at present, there are great differences in different policies, the basic policy formulation and the good performance of insurance payment, the scope of fund raising, coverage and other indicators still need to be improved. At present, the long-term care insurance pilot in China is highly dependent on medical insurance; unreasonable coverage; fragmented financing mechanism; and difficult policy to meet its differentiated needs. Measures such as improving the coverage rate, establishing independent and improving the financing mechanism, and strengthening the publicity of long-term care insurance can be adopted to optimize and improve.

Keywords

Long-Term Care Insurance; The Second Batch of Long-Term Care Insurance Pilot; Financing Mechanism.

1. Introduction

In 2020, China will expand the scope of long-term care insurance pilot projects, add 14 new pilot cities (districts), and explore the construction of independent long-term care insurance types. The pilot is more widely distributed, and the long-term care insurance has expanded to western China and areas inhabited by ethnic minorities. The pilot and promotion of long-term care insurance need a large amount of financial support. As the key to the operation of long-term care insurance, the financing problems directly affect the sustainable operation and stable development of the insurance. In the existing pilot projects, problems such as less capital accumulation, limited financing and insufficient payment ability have appeared. This paper focuses on the financing issues of the second batch of long-term care insurance pilot areas. On the one hand, it analyzes the financing mechanism of the pilot areas, and on the other hand, it studies the financing efficiency of the second batch of long-term care insurance pilot areas with the help of Data envelope Analysis, and puts forward policy optimization suggestions.

2. Literature Review

This article described in Long-term nursing Insurance (LTCI), reflects the basic characteristics of social insurance financial mechanism, is to raise funds in the form of mutual aid, the basic life care for long-term disability personnel and closely related medical care insurance system policy framework, promote the establishment and sound meet the needs of the multi-level long-term care security system. Financing mechanism is an important prerequisite of treatment payment and the key to the development of long-term care insurance. in order to ensure the integrity of

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the financing mechanism research, this paper divides the financing mechanism from the five aspects of the insured object, financing source, financing responsibility, financing channels and financing standards. The financing mechanism of long-term care insurance mainly has the following research perspectives: First, learn from the early national experience of the world-scope pilot, mainly for Germany and Japan, and put forward suggestions from the perspectives of financing channels, responsibility sharing and financing level. Second, the comparative study on the financing mechanism of China's long-term care insurance pilot areas focuses on considering the financing scheme of long-term care insurance in one of the first batch of pilot cities in China. It is found that the current long-term care insurance financing mechanism still has problems such as narrow insurance coverage and single financing channels, and puts forward countermeasures and suggestions. Third, take the pilot or some regions as an example, analyze the long-term care insurance financing mechanism combined with the economic model, and put forward the financing optimization scheme. Thus, China's long-term care insurance financing mechanism research focuses on experience introduction, comparative analysis and individual region experience, financing mechanism adjustment scheme, for the second batch of pilot area analysis is less, the future research financing mechanism tends to content more detailed, more diverse research methods, problem targeted clearer, to expand the pilot for long-term care insurance the scope of advice and support.

3. Research Method and Data Sources

First, the policy text analysis method. The second batch of pilot areas of long-term care insurance in China is distributed in scattered provinces, and local governments have formulated detailed implementation policy plans, which involve complex policy texts and many source channels. According to the above analysis and the current research situation of long-term care insurance in China, the policy orientation is obvious, and the policy itself and practical experience are integrated analysis. Second, the data envelope analysis method (DEA) method is used to evaluate the variables in the policy text, in order to propose targeted improvement and optimization strategies. DEA is a model with multiple input and output units first proposed by American operations chiologists Cooper and Charnes in 1978. On the basis of data statistics, the principle of linear planning is used to find the production frontier and calculate the efficiency of each decision unit. Its essence is to measure the same batch of projects, and the highest efficiency is strong and effective, which is comparative measurement index. In this study, it represents the pilot area with the highest input and output efficiency in the second batch of long-term care insurance pilot projects, and directly points out the direction and perspective of the inefficient pilot area to improve.

First, the data of the policy text are all derived from the official website of the local government and the local medical insurance bureau. Two points need to be explained: This paper takes the first issued document as the data source, which can form a horizontal comparison with other provinces and cities; the pilot data of Gannan Tibetan Autonomous Prefecture is seriously missing, and it is not included in the analysis scope. Second, the data of the population number, the number of insured persons and the payment base come from the provincial policy texts, statistical yearbooks, and the statistical bulletin of national economic and social development, and the data sources are reliable. In terms of time, the data adopts cross-sectional data, and the measurement time node used in this paper is 2021.Since the DEA analysis involves the problem of analysis units, Tianjin municipality directly under the Central Government conducted zoning statistics, and the missing data from Hebei district and Wuqing District were excluded.

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4. Research Results

4.1. Basic Information of the Pilot Areas

1. Coverage

Coverage explains the participants in long-term care insurance in China. First, urban workers covered nine places, accounting for 69.23 percent of the pilot total. Second, the people insured people in basic medical insurance for urban workers and basic medical insurance for urban and rural residents cover Hohhot, Urumqi and Shijingshan District of Beijing.

2. Source of fund raising

The source of financing refers to the situation of direct payment of insurance contributions in pilot cities. At present, China is mainly for finance, employers and individuals. The second batch of pilot areas all choose to adopt the form of multi-subject fundraising to raise funds. The nine provinces and cities of the basic medical insurance for urban workers selected units and individuals to raise funds. The Shijingshan District of Beijing Municipality and Qianxinan Buyi and Miao Autonomous Prefecture of Guizhou Province have clearly pointed out that financial subsidies should be provided in the form of individuals, units and financial subsidies working together. The sources of financing in the second batch of pilot areas have the following characteristics: first, all adopt the form of multi-subject fundraising; second, with units and individuals as the main financing body, is the most important undertaker, some regions use finance for financing supplement; third, the regional differences are obvious, and the proportion of financial subsidy allocation is quite different.

3. Fund-raising structure

The proportion of the fund-raising structure is different, and most of the pilot areas adopt the combination of unit payment and individual payment, with the ratio of 1:1. Shijingshan District of Beijing adopts 40%, 40%, and 20% of the government, 25% for urban and rural residents, and the rest of Qianxinan Buyi Miao Autonomous Prefecture is 10%, 45%, and 30%, 50% respectively. The proportion of fund raising roughly follows the principle of common sharing and individual-oriented, and the overall proportion is relatively balanced.

4. fundraising channels

Financing channels refer to the direct source of fund raising. China currently covers three channels of basic medical insurance for urban workers, financial fund subsidies and payment. First, urban worker basic medical treatment insurance, contain pooling funds and individual account two kinds. The second batch of pilot except Shijingshan District and lack of personal accounts insured, all in the form of personal accounts to raise. Most areas use the unit to raise money from the payment of urban workers' basic medical insurance directly drawn out the part as a long-term care insurance fund, in order to reduce the burden of units. Second, at present, there are many pilot areas directly using individual unit payment, and the unit payment mode is higher than individual payment. Third, the form of financial subsidies is widely used, and some regions provide support in the form of start-up funds. Finally, some areas clearly pointed out that they accept social donations and actively use social forces to participate in the construction of social insurance and the pilot process. In general, the financing channels show the characteristics of diversified channels and relying on the basic medical insurance for financing.

5. Financing method and financing standard

What financing method solves is the problem of using what method to raise a fund, in this pilot it is quota financing and proportion financing two forms, both proportion is equal. The financing standard solves the problem of the payment fee and the use of funds, and its rationality directly affects the sustainable development of the long-term care insurance system. In the formulation, it is often necessary to consider the pressure of units, individuals and

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finance, neither raise too high in the short term, nor raise too low to meet the basic operation needs of insurance. At present, the financing standard of China's quota financing part is quite different. In terms of proportional financing, the payment base is mainly the basic medical insurance base and the local average wage income, with the ratio of 0.1% to 0.3% adopted. According to the average value and the data statistics of provinces and cities, despite the difference in the contribution proportion and base, it is ultimately concentrated on the financing standard of about 110 yuan per year, and the overall burden level gap is not big.

5. Evaluation of Financing Efficiency --Analysis based on DEA

The principles of feasibility, continuity and scientificity are adopted, and the three input indicators are individual payment for medical insurance pooling (x1), fund transfer (x2), financial subsidy (x3); 2 output indicators, average subsidy amount (y1) and coverage rate (y2). Financing channels of long-term care insurance in China are mainly the individual account of basic medical insurance and pooling fund, financial fund subsidy and individual account. According to the financing, the individual account fund and unit separate payment; the medical insurance pooling fund covers two channels of direct transfer and pooling fund. In terms of output indicators, the second batch of long-term care insurance has been carried out for a short time, and its coverage rate and payment funds are the two most clear indicators. The average subsidy amount is the average of the highest standard of nursing subsidy provided by the long-term care insurance; the coverage rate is the percentage of the total registered population.

The efficiency of the pilot financing mechanism of the second batch of long-term care insurance is calculated, and the indicators cover the comprehensive efficiency, technical efficiency, scale efficiency, scale remuneration, and relative effectiveness. Among the 26 decision units, only 8 decision units have a comprehensive efficiency value of 1.000, which achieves strong DEA effectiveness and realizes the optimal allocation of capital input and output. The overall efficiency of other pilot cities is low, and the comprehensive efficiency of Kaifeng, Hanzhong and Kunming is about 0.3. The efficiency of Beijing Shijingshan District and Qianxinan Buyi Miao Autonomous Prefecture does not reach the average value and not maximize long-term care insurance benefits, which requires further improvement.

Technical efficiency refers to the situation where the output is reached by the existing resources input. From the perspective of pure technical efficiency TE, the average value is 0.9281, and the overall technical efficiency is high, but there is a large difference between the pilots. The technical efficiency of Beijing Shijingshan District and Qianxinan Buyi and Miao Autonomous Prefecture needs to be improved, and the capital allocation needs to be optimized. The allocation of funds in Kunming city and Kaifeng city needs to be improved, and there are some problems in the capital allocation, which is a large gap with other pilot areas. The existing investment and output efficiency in most pilot areas is good, so we can continue to optimize the resource allocation plan and improve the utilization level of funds.

Scale efficiency refers to the efficiency of output scale under existing technical conditions. the overall scale efficiency is relatively good, with an average value of 0.9103. Shijingshan District of Beijing is in the stage of diminishing scale remuneration, which has great potential, which can fully increase the scale or increase capital investment. Kaifeng, Kunming, Hanzhong and some districts of Tianjin are in the stage of increasing scale remuneration, and the scale can be expanded to improve efficiency. The scale of most regions is not optimal, which can play the role of scale benefit.

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Table 1. Efficiency values of the Financing Mechanism

Pilot cities	overall efficiency OE	technical efficiency TE	Scale efficiency SE	return of scale	relative efficiency
Shijingshan	0.777	0.787	0.987	Dimensional pay	Non-DEA is valid
Jincheng	1.000	1.000	1.000	Scale remuneration is fixed	The dea is strong and effective
Hohhot	1.000	1.000	1.000	Scale remuneration is fixed	The dea is strong and effective
Panjin	1.000	1.000	1.000	Scale remuneration is fixed	The dea is strong and effective
Fuzhou	1.000	1.000	1.000	Scale remuneration is fixed	The dea is strong and effective
Kaifeng	0.315	0.500	0.631	increasing returns to scale	Non-DEA is valid
Xiangtan	1.000	1.000	1.000	Scale remuneration is fixed	The dea is strong and effective
Nanning	1.000	1.000	1.000	Scale remuneration is fixed	The dea is strong and effective
Qianxinan	0.512	0.733	0.698	increasing returns to scale	Non-DEA is valid
Kunming	0.362	0.407	0.890	increasing returns to scale	Non-DEA is valid
Hanzhong	0.354	0.703	0.504	increasing returns to scale	Non-DEA is valid
Ürümqi	1.000	1.000	1.000	Scale remuneration is fixed	The dea is strong and effective
Binhai	0.962	1.000	0.962	increasing returns to scale	Non-DEA is valid
Heping	1.000	1.000	1.000	Scale remuneration is fixed	The dea is strong and effective
Hedong	0.904	1.000	0.904	increasing returns to scale	Non-DEA is valid
Hexi	0.945	1.000	0.945	increasing returns to scale	Non-DEA is valid
Nankai	0.941	1.000	0.941	increasing returns to scale	Non-DEA is valid
Hongqiao	0.907	1.000	0.907	increasing returns to scale	Non-DEA is valid
Dongli	0.917	1.000	0.917	increasing returns to scale	Non-DEA is valid
Xiqing	0.910	1.000	0.910	increasing returns to scale	Non-DEA is valid
Jinnan	0.908	1.000	0.908	increasing returns to scale	Non-DEA is valid

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Baodi	0.904	1.000	0.904	increasing returns to scale	Non-DEA is valid
Jinghai	0.911	1.000	0.911	increasing returns to scale	Non-DEA is valid
Ninghe	0.904	1.000	0.904	increasing returns to scale	Non-DEA is valid
Jizhou	0.904	1.000	0.904	increasing returns to scale	Non-DEA is valid
Beichen	0.940	1.000	0.940	increasing returns to scale	Non-DEA is valid

6. The Input and Output Optimization Analysis in D E A Ineffective Pilot Areas

The DEA method can measure the relative efficiency value of each decision unit, and the input and output indicators of the DEA invalid decision unit can be obtained to provide some suggestions for its improvement. Most of the pilot areas have good output benefits, and only the average subsidy amount in Shijingshan District of Beijing is insufficient, and the long-term care subsidies need to be further increased. Kaifeng city, Qianxinan Buyi and Miao Autonomous Prefecture, Kunming City, Hanzhong City, Hedong District, Baodi District and Jizhou District of Tianjin all have insufficient coverage problems to varying degrees, but the overall lack of coverage is less. In general, the amount of subsidies provided by the long-term care insurance pilot program in China is relatively reasonable, and the coverage rate needs to be further improved to cover more insured people, especially those insured in the basic medical insurance for urban and rural residents.

Table 2. Output insufficient values in D E A invalid areas

Analysis of insufficient output					
Pilot cities	S analysis of chi variables			Insufficient output rate	
	Average subsidy amount	fraction of coverage	gather	Average subsidy amount	fraction of coverage
Shijingshan	22.821	0	22.821	0.47	0
Kaifeng	0	0.294	0.294	0	2.825
Qianxinan	0	0.17	0.17	0	2.465
Kunming	0	0.086	0.086	0	0.394
Hanzhong	0	0.153	0.153	0	1.555
Hedong	0	0.026	0.026	0	0.24
Baodi	0	0.008	0.008	0	0.066
Jizhou	0	0.042	0.042	0	0.454

7. Existing Problems

First, it is highly dependent on basic medical insurance. At present, most of the financing channels of long-term care insurance in China come from the basic medical insurance for urban workers, and the proportion of contributions is mostly based on the basic medical insurance.

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Long-term care insurance, as an independent sixth insurance, needs a more independent development space and financing mechanism.

Second, the scope of the insured population needs to be expanded. At present, the participants of long-term care insurance in China are concentrated in the basic medical insurance of urban workers. Kaifeng city, Qianxinan Buyi and Miao Autonomous Prefecture and Hanzhong City all have deficiencies in the coverage output, and the gap is large. In the areas with a poor degree of coverage of medical insurance, the insured personnel are simply divided by the basic medical insurance for urban workers, which lacks the economic level of the personnel lacking in long-term care insurance costs. As a social insurance policy, its ultimate goal is to serve a wider range of people to reduce their survival or health risks, and the current coverage is far from enough.

Third, the fragmentation of financing mechanisms. The object of this analysis is the second batch of pilot areas of long-term care insurance in China. From the overall development situation, different regions differ greatly from the source of funds, financing channels and financing standards, and lack of unified standards. Even if different excessively fragmented financing modes in the province are easy to hinder its promotion, it is difficult for the central or local provincial units to realize resource coordination and policy balance. For local governments, if the long-term pilot mode is changed, it will inevitably increase the administrative costs and increase the pressure on the pilot areas.

Fourth, the payment mechanism is difficult to meet the differential needs. In-depth study of the payment standard can be found that the current level of family care payment is the lowest, and it needs to be evaluated according to the relevant standards. Family door-to-door service and care institution service provide high fund subsidies. In addition, in the pilot areas, most areas are still not divided into the corresponding payment standards, or their payment standards are only simply distinguished according to the nursing mode of care, which is difficult to play a substantial reduction role for the disabled people with high nursing quality requirements, and their differentiated nursing needs are difficult to be met.

Fifth, the efficiency of financing is quite different, and it urgently needs to be improved. Although according to the calculation principle of this study, there is an inevitable situation of "there is a comparison", the comprehensive benefit in some regions is only 0.3, which is huge. The actual reaction reflects the deficiencies in both financing amount and payment amount and coverage scale. Only by paying more attention to the differences between the pilot areas can we reduce the differences in the social security levels between the regions and provide a more solid guarantee for the medical and health care of the people.

8. Suggestions

First, establish an independent and perfect financing mechanism, and become an independent insurance type. The status of the "sixth insurance" of long-term care insurance cannot be ignored. At the present stage, the management cost can be reduced, but with the gradual deepening of the pilot, the long-term care insurance is actually different from the financing amount to the basic medical insurance. to deal with the independent construction of financing mechanism, take the pilot steps of independent financing and payment.

Second, improve the coverage rate, and coordinate the long-term care insurance for workers and residents. It is suggested to improve the coverage rate of long-term care insurance, coordinate the staff and residents to participate in the insurance, and improve the coverage rate, we should appropriately adjust the financing standard and burden ratio, especially in the areas where the overall efficiency has not reached the optimal. At present, there has been some research on the optimization model construction of the financing mechanism of long-term care insurance. Relevant departments can give full play to the role of think tanks to help the improvement and development of long-term care insurance.

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Third, we will optimize the structure of capital input and benefits. According to the efficiency analysis of the financing mechanism, it is suggested to optimize the structure of capital investment and payment of treatment, especially in the payment of treatment is suggested to increase the amount of nursing. According to the current hourly wage, the nursing cost standard of long-term care insurance payment is far from reaching the actual standard. In some areas, home care services are capped at 30 yuan per day, and the standard of door-to-door services and medical care centers are relatively high, which is difficult to meet the needs of basic security. It is necessary to optimize the structure of capital investment and payment of benefits in the future to realize the sustainable development of long-term care insurance.

Fourth, pay attention to the construction of long-term care insurance in special areas. On the one hand, the promotion of social insurance construction is more difficult in rural areas needs more in-depth research and long-term exploration. On the other hand, the pooling rate of medical insurance in some regions of China is less than the national level, and the pilot program in such regions needs more experience. Therefore, it is suggested to carry out some targeted pilot projects in rural areas, summarize the promotion experience, provide appropriate financial subsidy support and corresponding financing standards, and promote the in-depth development of long-term care insurance construction.

Fifth, strengthen the publicity of long-term care insurance. Most of the insured personnel have not yet known that they have participated in long-term care insurance. In the process of policy collection, the home page of relevant units did not publicize and popularize long-term care insurance. Therefore, it is suggested that while improving the coverage of long-term care insurance, the public knowledge should be improved, and the role of long-term care insurance should be publicized, so that the public can clearly understand the part of payment and the conditions of benefits, and avoid misunderstanding in the follow-up insurance claims and use process.

9. Discussion

This study lacks a pilot site data, because the DEA analysis is essentially a comparison in the same batch, the obtained conclusion is the relative value, so it has some impact on the experimental results. It can be optimized from the following perspectives: First, increase time variables, use panel data to analyze the financing mechanism, and adopt the mode of follow-up investigation to comprehensively measure the efficiency of long-term care insurance financing mechanism. Second, strengthen the attention to the use of nursing insurance fund, and study its practical application efficiency.

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