



## **Study on the Evaluation of Medical Fiscal Expenditure in the Context of Rural Revitalization Strategy -- Taking Anhui Province as an Example**

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**Abstract:** The outbreak of the epidemic in January 2020 will affect the medical service, financial expenditure, lifestyle and other aspects to a certain extent. Poverty caused by illness has always been a major cause of poverty in rural areas of China. For many years, the government has invested a large amount of financial funds in the medical and health field, but the sudden epidemic has brought huge challenges to the medical system in many areas of the country. President Xi Jinping has been presented in the big report into "the good life is people's increasing need and inadequate development imbalance between the contradiction", in order to solve the new contradiction, build a well-off society in an all-round way, in the face of the outbreak highlights the medical problem, at the same time promote the new type of medical service, to ensure sustained, stable and coordinated development of rural economy and strengthen the decisive battle of poverty decisive battle, explore how to improve the efficiency of medical spending is critical. From anhui province rural medical expenditure guarantee supply and the two aspects of medical service demand, through the analysis of the policy of rural revitalization strategy, the theory of medical expenditure and medical fiscal expenditure efficiency appraisal research, etc., combined with current situation of rural medical expenditure in Anhui province and the reason for the government to step in rural medical spending, etc., based on the data of Anhui province, from the aspects of total quantity, structure, performance, finally put forward the strategy of rejuvenating rural anhui medical expenditure efficiency under the background of the relevant policy recommendations, to ensure that the poor out of poverty and achieve 2020 rural revitalization.

**Keywords:** Rural revitalization, Medical financial expenditure, Fiscal policy.

## **1. Introduction**

Since the first national health conference in 1950, The medical security system has been constantly reforming with the progress of the times. Reform of the health care system (hereinafter referred to as "medical reform"), Full introduction of health reform after 2000, Emphasizing the new rural cooperative medical system in 2002, New Rural Cooperation Pilot Programme started in 2003, A new round of health reform was launched in 2009, The whole people cover the basic medical security system. With the emphasis on medical care, Central and local governments continue to increase financial expenditure on medical care in order to achieve the goal of medical reform. From 2009 to 2018, China's central medical financial expenditure, Expenditure on health, Expenditure on health and family planning, For health ,2019, This article is referred to as medical financial expenditure. ) rose from 6.35 billion yuan to 21.065 billion yuan, Local medical expenditure rose from 393.069 billion yuan to 154.129 billion yuan; During the same period, Anhui Province medical expenditure rose from 13.4 billion yuan to 60.9 billion yuan, The proportion of local public budget expenditure in Anhui Province also changed from 17.12% to 22.91%.

In general, the scale of medical expenditure in China is gradually expanding, among which, the total scale of medical expenditure in Anhui Province is at a relatively low level in the whole country. However, because China's economic growth is in the lower stage, the implementation of a large-scale tax reduction and fee reduction policy has reduced local fiscal revenue to a certain extent, and there are many problems in the process of medical development. Therefore, how to improve the efficiency of medical expenditure to ensure the realization of rural revitalization strategy is very important. Based on the relevant data of Anhui Province, this paper will study the total amount, structure, performance and so on, and finally put forward the relevant policy suggestions to improve the efficiency of medical expenditure in Anhui Province under the background of rural revitalization strategy, in order to ensure the realization of poverty eradication and rural revitalization by 2020.

## **2. A general analysis of rural revitalization strategies and medical expenditure**

### **2.1 The intrinsic link between rural revitalization strategies and medical expenditure**

#### **1. Harmonization of medical expenditure and rural revitalization strategy**

Both are essentially to eliminate poverty, improve the well-being of the people and meet the people's yearning for a better life. Medical financial expenditure is used in the field of medical and health resources, aimed at reducing the phenomenon of returning to poverty due to illness, speeding up the introduction and improvement of medical institutions, and providing a healthy and comfortable living environment for

rural residents. The strategy of rural revitalization involves many aspects, such as the accurate fight against poverty, rural infrastructure, rural innovation and vitality, and so on. It is the top priority of the whole party's work, focusing on the high quality and high quality of life, and promoting the overall progress of the countryside.

2. Medical expenditure and rural revitalization strategy are mutually reinforcing and interrelated

On the one hand, the health problem of farmers is the basic problem and priority of the strategy of rural revitalization, and the stage results of medical expenditure lay the foundation for the implementation of the strategy of rural revitalization. The core of rural revitalization strategy is people-oriented, the effective supply of rural medical services is the most direct embodiment of rural revitalization strategy to improve farmers' well-being, backward medical services will delay the process of rural revitalization, Only by focusing on the development of rural medical field, ensuring the effective supply of rural medical services and meeting the needs of medical and health fields can we solve the problem of poverty caused by illness and promote rural revitalization. On the other hand, the implementation of rural revitalization strategy can consolidate the achievements of medical expenditure. The strategy of rural revitalization can improve living security, improve the level of medical services, speed up the introduction and improvement of medical institutions, provide a healthy and comfortable living environment for rural residents, and put forward the strategy of rural revitalization to solve the problems in rural medical and health fields.

#### 2.2 The significance of government investment in the field of health care

Rural medical service system is an important part of social security system and has positive external effect on the development of the whole society. Improving the rural medical service system is an important way to promote the reform of urban and rural areas in China. It is difficult to realize the fairness in the field of rural medical and health by relying on a single market mechanism, so it is necessary to have the intervention of government public power. According to the theory of economics, health care belongs to public goods or quasi-public goods, and the government has the following three meanings in the field of health care:

One is to make up for market failure. The provision of safe drinking water in public health, prevention of infectious diseases, family planning and other pure public goods have a strong non-exclusive nature, private will not provide such products or only a small number of such products, so the government intervention in the field of health care can make up for market failure;

Second, promote income distribution equity. In the market economy, income is distributed according to individual labor input and capital input, and health is the guarantee of labor input. However, low-income people have poor living conditions,

weak ability to resist diseases, and tend to fall into a "cycle of poverty ", exacerbating the inequality of" the poorer the poor "and" the richer ", so that government intervention in the field of health care can reduce poverty and promote fair income distribution;

Third, make up for the defects of commercial insurance. The disease risk is uncertain, and the commercial insurance has the tendency to profit, will reject the high risk person, the government undertakes the disease risk may provide the labor security for the laborer, the intervention medical and health field may make up for the commercial insurance flaw.

### 2.3 Literature review

2020 is the key period of precision poverty eradication and rural revitalization strategy. Poverty caused by illness is the biggest factor of poverty in China. According to the investigation data of the State Council Poverty Alleviation Office, there were 140.05 million people in 2019, including 551.62 million in rural areas and 5.51 million in rural areas. The proportion of rural poor caused by illness reached about 40. Therefore, improving the efficiency of medical expenditure is of great significance to win the battle against poverty and to realize rural revitalization. Since the 19th National Congress of the Party put forward the strategy of rural revitalization, the academic community has paid more and more attention to medical expenditure.

Domestic scholars mostly use data envelopment analysis (DEA) to study the efficiency of medical expenditure. Using DEA、 regression linear model and LMDI decomposition method, Guo Yujing, Huang Zhanbing and Yao Yu (2013) calculate the efficiency of medical expenditure and investment in 30 provinces and cities in China from 2001 to 2010, Select medical expenditure as input variable, The number of hospital beds and coverage are output variables, The results show that the total medical expenditure in China is gradually expanding, But inefficient. Sun Rui, Gao Zhengbin (2016) Cui Zhikun, Zhang Yan (2018) used DEA、 Malmquist analysis method and Tobit model to calculate the efficiency of medical expenditure in each city of a province, Select local government medical expenditure as input variable, The number of health technicians, beds in medical institutions and health institutions are the output variables, The results show that the municipal medical expenditure efficiency is low, The efficiency difference of each city is big.

To sum up, the existing research has the following defects: first, the level of medical services is reflected in many aspects, most of the existing research indicators are not comprehensive enough, can not fully reflect the level of medical treatment, can only reflect a small part of the current level of medical treatment; second, most of the existing research is based on the country, based on a province of research is very lacking, not targeted, can not reflect the efficiency of each province; Third, the level

of medical service is a long-term process, in a short period of time can hardly see the efficiency of medical expenditure, but the existing research and analysis of the efficiency of medical expenditure less years, Therefore, the results obtained from the analysis and processing of data are biased and can not reflect the efficiency of financial expenditure scientifically and accurately. In view of this, this paper studies the efficiency of medical expenditure in Anhui Province on the basis of previous studies, in order to get policy suggestions to improve the efficiency of medical expenditure in Anhui Province, in order to promote the rural revitalization of Anhui Province.

### 3. Analysis on Current Situation and Problems of Medical Financial Expenditure in Anhui Province

In the government financial expenditure of our country, the medical financial expenditure includes the expenditure of medical and health management affairs, medical service and medical security, and the total amount, structure and performance of medical financial expenditure affect the economic development and social harmony. Since 2009, the total amount, structure and performance of medical expenditure in Anhui Province are as follows:

#### 3.1 Total medical expenditure

Since the new reform, Some achievements have been made in the field of health care in Anhui Province (see Table 1), Medical spending rose from 13.4 billion yuan in 2009 to 60.9 billion yuan in 2018, The proportion of local public budget expenditure in Anhui Province also changed from 17.12% to 22.91%, Up 5.79% in ten years, After putting forward the strategy of rural revitalization in 2017, Anhui's medical expenditure rose from 58 billion yuan in 2017 to 60.9 billion yuan in 2018, The proportion of local public budget expenditure in Anhui Province increased by 1% a year. Overall, Anhui Province medical financial expenditure shows an upward trend. But for now, Anhui Province medical financial expenditure still faces a lot of difficulties. The following aspects are shown: first, financing, As our country is currently in the economic downturn, And implement tax cuts and fees, The total revenue was reduced, The government's spending on health care has fallen sharply, from 25.3% in 2017 to 5.0% in 2018; Second, institutional aspects, The coverage of the medical insurance system is not comprehensive enough.

Table 1 Statement of financial investment in the field of health care in Anhui Province ,2009-2018

Year	Medical financial expenditure (billion yuan)	Total financial expenditure (10,000 yuan)	Medical financial expenditure/total financial expenditure	Increase in medical expenditure
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2009	134	1584	8.5%	
2010	164	1930	8.5%	22.6%
2011	258	2707	9.5%	57.2%
2012	306	3372	9.1%	18.6%
2013	349	3753	9.3%	14.0%
2014	410	4034	10.2%	17.4%
2015	470	4567	10.3%	14.6%
2016	463	4878	9.5%	-1.4%
2017	580	5419	10.7%	25.3%
2018	609	5732	10.6%	5.0%

Source: Anhui Statistical Yearbook

### 3.2 Structure of medical expenditure

The allocation of medical resources in Anhui Province is heterogeneous, and the allocation of urban and rural resources is quite different. Geographical environmental factors and economic development jointly restrict the supply imbalance of medical financial resources. The unreasonable allocation of medical resources is mainly reflected in the following aspects: first, in 2018, the resident urban population of Anhui Province accounted for 54.69, but the urban medical and health technicians accounted for 88.72. Urban residents enjoy high-quality medical equipment and professional treatment. Compared with cities and towns, the rural medical and health technicians are short, the traditional rural barefoot doctors are more, the graduates of professional medical schools are less, and there is the phenomenon that doctors sit on one day of the week only. In addition, rural medical and health technicians income is not high, leading to rural medical team instability, there is a "can not stay" phenomenon; Second, in recent years, urban development has flourished, rural areas have "hollowing out" phenomenon, the rural population is aging seriously, the elderly suffer from many diseases, the nursing task is heavy, the medical service demand is biased towards the elderly medical institutions, but the rural health and quarantine means are backward, the medical service is biased towards the supply of small injury and minor illness treatment, the supply level is low, the demand of the elderly is not matched, the supply and demand are disjointed, the resource allocation is unreasonable and the regional difference is large, so the rural elderly medical service becomes the weak link of the whole rural medical service system.

### 3.3 Performance of medical expenditure

Compared with urban residents, the income of rural residents is generally low, the health awareness of rural residents is weak, coupled with the pressure of housing and old-age care, rural residents often ignore their own health problems, often used to refuse to participate in insurance, Save insurance expenses to relieve other pressures.

In the face of disease, farmers generally adopt the attitude of "no disease, no prevention ", " minor illness should be carried ", " serious illness can be entrusted" and so on, which leads to the low efficiency of medical expenditure. The main reasons for this phenomenon are as follows:

First, farmers have a limited level of education, lack of disease prevention ability, can not effectively prevent disease;

Second, in the face of small diseases, medical security measures are limited, negative visits, or even no visits;

Third, patients with serious illness are often the main income providers in the family. On the one hand, hospitalization needs expenses. Although there are medical insurance reimbursement, medical insurance reimbursement expenses are limited, on the other hand, the main income providers in the family can not continue to make money.

The weak health consciousness of rural residents has become the main reason that restricts the efficiency of medical expenditure.

#### **4. Empirical Analysis of the Influence of Endogenous Factors on the Efficiency of Medical Expenditure in Anhui Province**

##### 4.1 Variable selection and data description

According to the above literature review and combined with the research direction of this paper, this paper draws lessons from the practice of Sun Rui, Gao Zhengbin (2016) Cui Zhikun, Zhang Yan (2018) and other scholars, selects the medical financial expenditure of Anhui Province as the input variable, selects the number of beds, health technicians and health institutions as the output variable, and then calculates the efficiency of medical financial expenditure in Anhui Province.

Table 2 Indicator system for evaluating the efficiency of medical expenditure

Type of variable	Variable name	Variant interpretation
Input variables	Medical expenditure (10,000 yuan)	Reflecting Government spending on health
Output variables	Number of beds in medical institutions (sheets)	Bed provision for hospitals, primary medical and health institutions, specialized public health institutions and other medical and health institutions
	Health technicians (persons)	Health professionals
	Number of health institutions (s)	Hospitals, primary medical and health institutions, professional public health institutions, other medical and health institutions

This paper, according to the variables listed in Table 2, intercepts the relevant data of 16 prefecture-level cities from 2009-2018 from the Statistical Yearbook of Anhui

Province, and uses DEA analysis method and deap software to analyze the efficiency of medical financial expenditure in 16 prefecture-level cities.

#### 4.2 Empirical results analysis

##### 1. Analysis on the Time Dimension Change of Medical Expenditure Efficiency

The following points can be found from Table 3:

First, the average Malmquist index (total factor productivity) of medical expenditure in Anhui Province from 2009 to 2018 is 0.936, which indicates that the overall medical expenditure efficiency of Anhui Province (except for the increase in 2011) is on the whole declining trend. From 2012, the Malmquist index is less than 1, which indicates that with the increase of medical expenditure in Anhui Province, the allocation level of rural medical resources has not gradually tended to the optimal scale.

Second, after the strategy of rural revitalization in 2017, the efficiency of medical expenditure has been improved, but it is not obvious. From the point of view of technological progress, the average value is 0.911, down 8.9%, indicating that the overall level of medical expenditure efficiency in Anhui Province has not improved, mainly caused by the technological recession.

Table 3 Change and Breakdown of Average Efficiency of Medical Fiscal Expenditure in Anhui Province from 2009 to 2018

	Relative technical efficiency effch	Technological progress techch	Pure technical efficiency pech	Scale efficiency sech	Malmquist index tfpch
2009—2010	0.924	0.903	1.008	0.916	0.834
2010—2011	1.277	0.982	1.257	1.016	1.253
2011—2012	1.063	0.791	0.995	1.069	0.841
2012—2013	0.963	0.993	0.993	0.970	0.956
2013—2014	0.908	0.989	0.987	0.920	0.898
2014—2015	0.936	0.962	0.990	0.946	0.901
2015—2016	1.239	0.796	1.026	1.208	0.987
2016—2017	0.992	0.850	1.038	0.955	0.843
2017—2018	1.013	0.967	0.987	1.026	0.979
Mean	1.028	0.911	1.028	0.999	0.936

##### 2. Analysis of Regional Differences the Efficiency of Medical Expenditure

As can be seen from Table 4:2009-2018, Chizhou City, Huangshan City, Xuancheng City, Ma'anshan City and Tongling City ranked 1,6,8,11 and 13 respectively, Chizhou has the highest efficiency, 0.985, Tongling has the lowest efficiency, 0.909. Liu'an City, Anqing City, Huainan City, Chuzhou City, Wuhu City and Hefei City ranked 3rd ,9th ,10th ,12th ,14th and 15th respectively, Among them, Lu'an City has the

highest efficiency, 0.966, Hefei has the lowest efficiency, 0.898. The average annual medical expenditure efficiency of Mizhou City, Fuyang City, Suzhou City, Bengbu City and Huaibei City were ranked 2nd ,3rd ,5th ,6th and 16th respectively, The most efficient, 0.981, Huaibei City is the least efficient, 0.897. The top three cities in Anhui province are Chizhou, Mizhou and Fuyang, Located in southern Anhui, northern Anhui, northern Anhui; The last three were Wuhu, Hefei and Huaibei, They are located in central Anhui, central Anhui and northern Anhui. Overall, The average annual medical expenditure efficiency of the three regions in Anhui Province ranked from high to low as North Anhui, South Anhui and Central Anhui, The efficiency of medical financial expenditure is generally different in the region. The average output of each municipality is 0.936, It can be seen that the overall level of medical expenditure efficiency in Anhui Province decreased by 6.4% between 2009 and 2018, The average relative and pure technical efficiency of each city is greater than 1, 8.9 per cent technical retrogression in municipalities, On average, the scale efficiency dropped 0.1%, It shows that the main reason for the decline in the efficiency of medical expenditure in cities is the change of scale economy and technology progress.

After the strategy of rural revitalization was put forward, the technology of 16 prefectural cities in Anhui Province did not progress, but retreated, which indicated that Anhui Province as a whole needed to further improve the utilization rate of existing technology. With the passage of time, technology must be progressive, but this paper draws the opposite conclusion, which may be caused by the following two points: first, the output variables selected in this paper can not fully and truly reflect the technological progress of Anhui Province.

Table 4 2009-2018 Average Annual Health Expenditure in Anhui Province

	relative technical efficiency effch	Technological progress techch	Pure technical efficiency pech	Scale efficiency sech	Malmquist index tfpch	Ranking ranking
Hefei	1.000	0.898	1.000	1.000	0.898	15
Huaibei	1.000	0.897	1.000	1.000	0.897	16
Bozhou	1.080	0.908	1.103	0.979	0.981	2
Suzhou	1.061	0.898	1.073	0.989	0.953	5
Bengbu	1.031	0.914	1.031	1.000	0.943	6
Fuyang	1.059	0.912	1.050	1.008	0.966	3
Huainan	1.005	0.924	1.003	1.002	0.929	10
Chuzhou	1.025	0.901	1.032	0.993	0.923	12
Lu'an	1.060	0.912	1.060	1.000	0.966	3
Ma'anshan	1.016	0.911	1.016	1.000	0.925	11

Wuhu	0.991	0.910	0.995	0.996	0.902	14
Xuancheng	1.027	0.914	1.032	0.995	0.938	8
Tongling	1.011	0.899	1.000	1.011	0.909	13
Chizhou	1.068	0.922	1.068	1.000	0.985	1
Anqing	1.016	0.917	0.999	1.017	0.932	9
Huangshan	1.000	0.943	1.000	1.000	0.943	6
Mean	1.028	0.911	1.028	0.999	0.936	

Malmquist index, total factor productivity = relative technological progress\* scale efficiency

Relative technical efficiency = technological progress \* Pure technical efficiency

The above is based on endogenous factors to analyze the trend of medical expenditure efficiency, the main reason for the obvious difference in the efficiency of medical expenditure in Anhui Province is the existence of uncontrollable factors. Therefore, the following consideration of external factors on the efficiency of medical expenditure.

## 5. Empirical Analysis of the Influence of External Factors on the Efficiency of Medical Expenditure in Anhui Province

### 5.1 Variable selection and data description

According to the literature review above and combined with the research direction of this paper, this paper draws on the practice of Sun Rui, Gao Zhengbin (2016) Cui Zhikun, Zhang Yan (2018) and other scholars, selects the comprehensive efficiency value as the explained variable, and selects the income decentralization, expenditure decentralization, per capita GDP、 population density, general budget income and expenditure ratio as the explanatory variables.

Table 5 Index system of influence of external factors on the efficiency of medical expenditure

Type of indicator	Variable name	Variant interpretation
Interpretative variables	Consolidated efficiency value (Efficiency)	Synthesis of input-output scores for municipalities
Explanatory variables	Decentralization of income (Fd1)	Tax powers granted to the next level of government in the province
	Decentralization of expenditure (Fd 2)	Scope of payment liability granted to the next level of government at the provincial level
	Economic development level (Ln gdp)	GDP per person per municipality
	Population density (Ln density)	Population density by city
	Financial adequacy (Ln revenue)	General budget income of municipalities

	Proportion of medical expenditure (Ratio)	Proportion of municipal medical expenditure to general budget expenditure
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Fd1= municipal per capita budget government expenditure /(municipal per capita budget government expenditure + per capita provincial budget government expenditure)

Fd2= per capita budget of each city government revenue per level (per capita budget of each city government revenue per level + per capita provincial budget government revenue per level)

The original data are from 2009-2018 Anhui Statistical Yearbook. Owing to the 10-year data, in order to eliminate the impact of inflation factors, the GDP reduction index (2009=100) of the municipalities selected for the general budget income of the municipalities per capita was reduced (2009), and the per capita GDP、 population density, general budget income was logarithmic to reduce the heteroscedasticity of the model. The following results were obtained:

Table 6 Statistical characteristics of variables

Variable name	N	Average value	Minimum value	Maximum value	Standard deviation
Consolidated efficiency/ Efficiency	160	0.753	0.346	1	0.187
Income separation/ Fd1	160	0.494	0.176	0.797	0.156
Decentralization/ Fd2 of expenditure	160	0.463	0.099	0.842	0.196
Economic development level/ Ln gdp	160	6.887	5.504	8.936	0.633
Population density/ Ln density	160	7.8	6.372	8.587	0.494
General budget income/ Ln revenue	160	3.81	1.662	6.255	0.881
Ratio% of expenditure	160	0.261	0.055	0.826	0.168

5.2 (ii) Model setting and analysis of results

Establish the following equation:

$$Efficiency_{i,t} = C + \beta_1 Fd_{i,t} + \beta_2 Ln gdp_{i,t} + \beta_3 Ln density_{i,t} + \beta_4 Ln revenue_{i,t} + \beta_5 Ratio_{i,t} + \alpha_i + \mu_i$$

Among them: Efficiency<sub>i,t</sub> as comprehensive efficiency, C as intercept term; β<sub>1</sub>、 β<sub>2</sub>、 β<sub>3</sub>、 β<sub>4</sub>、 β<sub>5</sub> as the coefficients for five variables; subscript i and t represent the i-th city and the t-th year; α<sub>i</sub> as a random variable; μ<sub>i</sub> is an error term. The estimated results are as follows:<sup>1</sup>

<sup>1</sup>Refer to Cui Zhikun, Zhang Yan. Fiscal Decentralization and Health Expenditure Efficiency —— Jiangsu Province as an Example [J.] Finance and Trade Research 29(09):76-84.

Table 7 Tobit Empirical findings

	Interpreted variable: Efficiency of comprehensive efficiency scores		
	Model 1	Model 2	Model 3
fd1	-1.016** (-2.344)	-0.251** (-2.301)	
fd2	0.828** (2.470)		0.287** (2.229)
lngdp	0.081* (1.986)	0.074** (2.505)	0.089*** (2.955)
Indensity	-0.040 (-0.902)	- 0.080*** (-2.898)	-0.083*** (-3.007)
Inrevenue	-0.018 (-0.453)	-0.004 (-0.179)	-0.025 (-1.007)
ratio	-0.528*** (-2.872)	-0.398** (-2.381)	-0.380*** (-3.048)
c	0.828** (2.134)	0.867*** (3.355)	0.842*** (3.865)
Log likelihood	114.526	81.92	83.494

Note :\*\*\*,\*\*,\* denote rejection of the original hypothesis at the 1%,5% and 10% levels, respectively; data in parentheses are z statistics for Tobit models.

The results show that income decentralization is not conducive to the improvement of medical expenditure efficiency in Anhui Province, and the negative correlation between income decentralization and medical expenditure efficiency is significant at the level of 5%. The main reason for this result is that under the strategy of rural revitalization, the government pursues performance appraisal too much. The decentralization of expenditure is beneficial to the improvement of the efficiency of medical expenditure in Anhui Province, and the positive correlation between the decentralization of expenditure and the efficiency of medical expenditure is significant at the level of 5%, which indicates that the higher the decentralization of expenditure, the higher the efficiency of medical expenditure. The reason may be that the division of expenditure responsibility under rural strategy is conducive to the effective provision of public goods by the government and the market. The economic development level is beneficial to the improvement of medical expenditure efficiency in Anhui Province, the degree of economic development is positively related to the efficiency of medical expenditure, and the positive correlation between economic development level and medical expenditure efficiency is significant at 10% level. Population density is

negatively correlated with the efficiency of medical expenditure, and its correlation is significant at the level of 10%, which indicates that the utilization of medical resources in areas with high population density is insufficient, that is, there is a phenomenon of diseconomies of scale under the strategy of rural revitalization. Financial adequacy is negatively correlated with the efficiency of medical expenditure, but this paper has no significant impact on the three models of medical expenditure efficiency. It shows that the index has little effect on the efficiency of medical expenditure in Anhui Province after the strategy of rural revitalization is put forward. The proportion of medical expenditure is negatively related to the efficiency of medical expenditure, and its correlation is significant at the level of 10%, which indicates that excessive medical expenditure under the strategy of rural revitalization may lead to extravagance and waste of medical and health institutions and jumbled officials. And then lead to reduced efficiency.

## **6. Policy recommendations**

Through the previous analysis, it is not difficult to find that the efficiency of medical expenditure in Anhui Province still needs to be improved under the background of rural revitalization strategy. There are some practical problems such as incomplete coverage of medical system, unreasonable allocation of resources in the field of medical and health care, asymmetric information between the demand side and the supply side, and the need to improve the health consciousness of rural residents. This paper also systematically analyzes the efficiency of medical fiscal expenditure from the perspective of fiscal decentralization, and finds that under the background of rural revitalization strategy, there are some problems such as lack of role, uneconomical scale, technological retrogression and so on. These problems have become an important factor limiting the efficiency of medical expenditure in Anhui Province. Based on the above problems and research conclusions, this paper puts forward the following policy suggestions for improving the efficiency of medical expenditure in Anhui Province:

### **1. Comprehensive coverage of rural revitalization strategies and health insurance systems**

The strategy of rural revitalization can consolidate the results achieved by medical fiscal expenditure and improve the level of medical services. Both the central and local governments should appropriately tilt financial funds to rural areas. In order to ensure the overall implementation of rural revitalization strategy and medical insurance system coverage, and then achieve rural revitalization.

### **2. Implementation of urban-rural medical integration policy**

In order to narrow the gap between urban and rural residents in medical treatment

and improve the efficiency of medical expenditure, it is necessary to improve the policy of urban and rural integration and change the structure of financial expenditure and the pattern of distribution of benefits. Reexamine the distribution pattern, economic objectives and significance of the project, and resolve the imbalance of medical expenditure between regions. We should advocate the talent sinking guarantee system, give preferential policies and subsidies to talents, promote the sharing of urban and rural resources, and make up for the lack of talents in rural areas. Speed up the coverage of new rural cooperation, improve the reimbursement system, improve urban and rural planning.

### 3. Improve the medical network platform

In view of the asymmetry of medical information between the demand side and the supply side, we should improve the online diagnosis and treatment information system in remote areas, encourage farmers to use the network platform to obtain medical resources information, share medical service needs, and strengthen supervision in the field of medical services. Provide services effectively by tracking user addresses and information.

### 4. Enriching Farmers' Health Knowledge

Strengthen the propaganda of rural medical treatment, at the same time make a simple and easy to understand propaganda manual, let farmers familiar with some basic medical knowledge, change farmers' inherent attitude to see a doctor, form "disease prevention, regular physical examination," A good habit of seeing a doctor. Multi-channel access to farmers' medical needs and medical satisfaction, improve the system, ensure farmers to enhance health awareness, pay attention to health.

### 5. Deepening the reform of fiscal decentralization system and optimizing the structure of fiscal expenditure

Different from the previous government expenditure on infrastructure, government expenditure now tends to medical, social security, employment and other aspects of people's livelihood. With the development of economy, government finance should increase the expenditure of people's livelihood projects and adjust the structure of fiscal expenditure. And in the health care industry, it requires both the market, the invisible hand, to play a fundamental regulatory role, and the necessary intervention by the visible hand of the government. Fiscal spending on the health sector is a manifestation of the necessary intervention. The government has joined the medical and health industry to cover a certain proportion of medical expenses for social members and to do its best to solve the livelihood problem of social members.

(1) Deepening the reform of the fiscal decentralization system. In the initial distribution, the necessary adjustments are made according to taxes to increase revenue. In addition, the division of medical power is clarified, so that it can make

better use of financial funds according to local needs to allocate medical resources reasonably. At the same time, strengthen and improve the transfer payment system, play its role in the rational allocation of resources.

(2) Optimize the structure of fiscal expenditure, make the allocation of resources more reasonable and improve the efficiency of the utilization of financial funds. In the case of abundant financial funds, as much as possible to increase the scale of financial medical expenditure, to maximize the needs of social members for health care. The scale of each fiscal expenditure can be adjusted, and the proportion of fiscal medical expenditure can be increased by using the increment of the government's future fiscal revenue to the medical industry under the premise of the same expenditure.

(3) Broaden the sources of funding and increase the scale of financial medical expenditure. It can improve industrial policy, promote the economic development of Suzhou, narrow the regional economic differences, and increase the absolute scale of medical expenditure. At the same time, the government can increase tax incentives and other policies to attract other investors to join the health care industry, increase funds for health care expenditure, and expand the channels of funding sources. In addition, the central government can also strengthen the support to the underdeveloped areas, and use the transfer payment system to increase the relative scale of medical financial expenditure.

(4) Increase the importance that the Government attaches to the medical profession. Some studies have shown that the medical industry can improve the health level of workers, ensure high quality labor output, and then maintain the sustainability of economic development. In addition, for government officials, their performance is not only the level of local economic development, but also the efficiency of the health industry. The efficiency of financial medical expenditure and the performance appraisal of government officials can improve the attention of medical industry to a certain extent.

#### 6. development of education, emphasis on scientific and technological innovation

Education is the premise and foundation of a country's development, and innovation embodies a country's competitiveness. The education level of Anhui Province needs to be further improved, and the level of scientific and technological innovation needs further development. Because Anhui Province is an underdeveloped area, the population flow is large, the main flow is the economic development area, which is manifested in the continuous outflow of intellectuals with heavy resident population in Anhui Province, the benefit of education spillover is not significant, and the return on investment is low. This also leads to low efficiency of financial expenditure on education, resulting in a certain amount of investment in educational resources and related equipment waste.

- (1) The Government takes measures to support and encourage members of society to learn all aspects of professional knowledge. Attach importance to the cultivation of talents and implement the strategy of giving priority to the development of talents
- (2) Attach importance to scientific and technological innovation and use big data and artificial intelligence to improve the efficiency of financial and medical expenditure. Strengthen the understanding of science and technology, strive to develop high-tech industries, and increase support for high-tech industries.
- (3) Schools should enhance the sense of belonging of talents. For middle and senior talents staying in Anhui Province, the government should give them and their families certain welfare policies, such as housing policies.

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