

# The effectiveness of Social Security Incentive Mechanism to promote the development of the Health Industry of Traditional Chinese Medicine

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**Abstract:** On the basis of field research, this paper uses AHP and fuzzy comprehensive evaluation method to study the effectiveness of Chinese social security incentive mechanism in promoting the development of Chinese medicine health industry. The results show that the effectiveness of Chinese medicine health industry social security incentive mechanism is not enough. The government should strengthen the construction of Chinese Medicine health industry social security incentive mechanism and attach importance to relevant policies In order to realize the modernization of Chinese medicine health industry as soon as possible.

## 1 Introduction

At present, the development of Chinese medicine health industry is bumpy. The government also attaches great importance to the development of Chinese medicine health industry, and has issued a variety of policies to provide protection for Chinese medicine health industry, as well as policies related to Chinese medicine social security. This paper mainly focuses on the effectiveness of social security system to stimulate the health industry of traditional Chinese medicine, which can provide theoretical basis for the formulation of social security system of traditional Chinese medicine, help the government to formulate more targeted social security policies of traditional Chinese medicine, encourage the development of traditional Chinese medicine industry, and drive the relevant economic development.

This paper mainly uses two empirical methods: AHP level analysis method and fuzzy comprehensive evaluation method. First, according to the validity index, we designate the questionnaire to ask people to fill in the questionnaire, then carry on the theoretical and empirical analysis to the questionnaire results. AHP is a combination of qualitative and quantitative methods to solve multi-level complex problems and calculate the weight of decision-making. Fuzzy evaluation refers to the use of fuzzy mathematics method to evaluate things with multiple influencing factors according to a certain evaluation index system. This paper mainly uses the weighted averaging algorithm, which combines the A matrix with the R matrix. It is a recommended fuzzy algorithm.

## 2 Empirical analysis

### 2.1 Determination of evaluation index

In this project, 356 questionnaires were distributed by random sampling method, and 311 valid questionnaires were collected. The survey samples passed the reliability and validity test, which proved the validity of the questionnaire. 5.1 Determine the final evaluation indicators

This paper mainly studies the effectiveness of social security mechanism to promote the development of traditional Chinese medicine health industry. On the basis of the research on the effectiveness of policy proposed by Chen Zhenming et al. (2003), this paper constructs an evaluation index system from the three core indicators of policy benefit, policy efficiency and policy value. These three types of indicators are scientific and authoritative, and in line with China's national conditions. Combined with the social security incentive mechanism of traditional Chinese medicine health industry, the evaluation index framework of this paper is drawn as follows: the policy benefit of social security incentive mechanism, the policy efficiency of social security incentive mechanism, and the policy value of social security incentive mechanism. At the same time, combined with the policy demand of Chinese medicine health industry and the current situation of Chinese medicine health industry, these three indicators need to include the evaluation of social security policy benefits, namely social benefits, political benefits and economic benefits, reflecting the social security incentive mechanism policy benefits; Secondly, the evaluation of the policy efficiency of social security, namely, the

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maximization of the value of policy output and the minimization of input, reflect the input and output of social security policies; The third is the evaluation of the value of social security policy, which is in the five areas of the development of traditional Chinese medicine: TCM service, cultivation and cultivation of traditional Chinese medicine, training of talents of traditional Chinese medicine, scientific research achievements of traditional Chinese medicine, cultural heritage and cultural dissemination of traditional Chinese medicine, reflecting the value of policy on the health industry of traditional Chinese medicine. The questionnaire is designed according to the indicators, and the policies of our country are sorted out in time and space. Referring to a large number of relevant literature, the indicators are finally determined as follows:

**Evaluation index system**

The target layer	Level 1 indicators	Secondary indicators	
A study on the effectiveness of the social security system in promoting the development of the Chinese medicine health industry A	B1	Social benefits	C1
		Political benefits	C2
		Economic benefits	C3
		The value of the output	C4
		Policy input	C5
	B2	Chinese medicine services	C6
		Protection and development of Chinese herbal medicine	C7
		Chinese medicine personnel training	C8
		Scientific research on Chinese medicine	C9
		Cultural heritage and cultural dissemination of Chinese medicine	C10
B3	Chinese medicine services	C11	
	Protection and development of Chinese medicine	C12	
	Talent training of traditional Chinese Medicine	C13	
	Scientific research on Chinese medicine	C14	
	Cultural heritage and cultural dissemination of Chinese medicine	C15	

**2.2 Analysis of the effectiveness of social security incentive mechanism for the development of Chinese medicine health industry**

**2.2.1 Determine the scale and construct the judgment matrix in the AHP hierarchical analysis**

In this paper, the questionnaire uses 1-5 scale method (the lowest is 1 point, the highest is 5 points); and combined with the expert scoring, finally get the judgment matrix table. As follows,

**The first-level indicator evaluation matrix**

Average	item	Policy benefits	Policy efficiency	Policy value
3.66	Policy benefits	1	1.010101	0.952381
3.7	Policy efficiency	0.99	1	0.980392
3.69	Policy value	1.05	1.02	1

**The policy benefit evaluation matrix of the second-level index incentive mechanism**

Average	item	Social benefits	Political benefits	Economic benefits
4.11	Social benefits	1	1.010101	0.980392
4.19	Political benefits	0.99	1	1
4.15	Economic benefits	1.02	1	1

**The policy efficiency evaluation matrix of the secondary index incentive mechanism**

Average	item	Maximize output	Minimize investment
3.63	Maximize output	1	1.020408163
3.78	Minimize investment	0.98	1

**The policy value evaluation matrix of the secondary index incentive mechanism**

Average	item	Chinese medicine services	Protection and development of Chinese medicine	Chinese medicine personnel training	Scientific research on Chinese medicine	Cultural heritage and cultural dissemination of Chinese medicine
3.8	Chinese medicine services	1	1	0.99009901	1.01010101	1
3.91	Protection and development of Chinese medicine	1	1	1	1	1.11111111
3.77	Talent training of traditional Chinese Medicine	1.01	1	1	1	1.041666667

4.02	scientific researches in TCM Chinese Inheritance and dissemination of traditional Chinese medicine culture	0.99	1	1	1	1
4.01		1	0.9	0.96	1	1

Note: The above judgment matrix is calculated by SPSSAU software.

**2.2.2 Indicator weight and consistency test results**

According to the resulting judgment matrix, the AHP level analysis is carried out in SPSSAU, from which the weight and consistency test results are obtained. The results of the analysis are shown in the table below:

**First-level indicator weight and consistency test**

AHP hierarchical analysis results				
item	The feature vector	The weight value	The maximum feature value	CI value
Policy benefits	0.987	32.901%		
Policy efficiency	0.99	32.999%	3	0
Policy value	1.023	34.100%		

**A summary of consistency test results**

The maximum feature root	CI value	RI value	Cr value	Consistency test results
3	0	0.52	0	Pass

**Secondary index weight and consistency test**

AHP hierarchical analysis results				
item	The feature vector	The weight value	The maximum feature value	CI value
Social benefits	0.997	33.225%		
Political benefits	0.997	33.221%	3	0
Economic benefits	1.007	33.554%		

**A summary of consistency test results**

The maximum feature root	CI value	RI value	Cr value	Consistency test results
3	0	0.52	0	Pass

**AHP hierarchical analysis results**

item	The feature vector	The weight value	The maximum feature value	CI value
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	feature value		
Maximize output	1.01	50.505%	2
Minimize investment	0.99	49.495%	0

**A summary of consistency test results**

The maximum feature root	CI value	RI value	Cr value	Consistency test results
2	0	0	null	Pass

**AHP hierarchical analysis results**

item	The feature vector	The weight value	The maximum feature value	CI value
Chinese medicine services	1	19.996%		
Protection and development of Chinese medicine	1.021	20.427%		
Chinese medicine personnel training	1.01	20.197%	5.001	0
Scientific research on Chinese medicine	0.998	19.955%		
Cultural heritage and cultural dissemination of Chinese medicine	0.971	19.426%		

**A summary of consistency test results**

The maximum feature root	CI value	RI value	Cr value	Consistency test results
5.001	0	1.12	0	Pass

From the above analysis results, it can be seen that all the consistency tests of all indicators have passed, and the following fuzzy comprehensive evaluation can be continued.

In summary, the weights of indicators at all levels are as follows:

First level index weight:  $W=(0.32901,0.32999,0.34100)$ .

Secondary index weight:  $W1=(0.33225,0.33221,0.33554)$

$W2=(0.50505,0.49495)$

$W3=(0.19996,0.20427,0.20197,0.19955,0.19426)$

and the analysis is more reasonable. According to this paper, the evaluation grade is set as five, namely  $P = \{1. \text{Very poor effectiveness, } 2. \text{Poor effectiveness, } 3. \text{General, } 4. \text{Good effectiveness, } 5. \text{Very good effectiveness}\}$ , and the assignment of these five grades is  $C = (20, 40, 60, 80, 100)$ .

### 2.3.1 Build evaluation secondary indicator weight vector A and weight judgment matrix R

In this paper, the weight matrix A and the weight judgment matrix R are combined into one, and the secondary index matrix is shown in the table below :

### 2.3 Fuzzy comprehensive evaluation

The fuzzy comprehensive evaluation method used in this paper makes comprehensive use of a matrix and R matrix,

the secondary index matrix1

The indicator item	Weight	Very dissatisfied	I'm not satisfied	General satisfaction	Very satisfied	Very satisfied
Social benefits	0.33225	0.0096	0.0322	0.3923	0.3666	0.1994
Political benefits	0.33221	0.0096	0.0161	0.3215	0.3987	0.254
Economic benefits	0.33554	0.0032	0.0354	0.3666	0.3633	0.2315

the secondary index matrix2

The indicator item	Weight	Very dissatisfied	I'm not satisfied	General satisfaction	Very satisfied	Very satisfied
Maximize value	0.50505	0.0096	0.0289	0.4566	0.3312	0.1736
Minimize investment	0.49495	0.0064	0.0354	0.3633	0.3601	0.2347

the secondary index matrix3

The indicator item	Weight	Very dissatisfied	I'm not satisfied	General satisfaction	Very satisfied	Very satisfied
Chinese medicine services	0.19996	0.0064	0.0289	0.3376	0.4084	0.2186
Protection and development of Chinese medicine	0.20427	0.0096	0.0225	0.3312	0.3183	0.3183
Chinese medicine personnel training	0.20197	0.0064	0.0386	0.3633	0.3666	0.2251
Scientific research on Chinese medicine	0.19955	0.0129	0.0289	0.2283	0.3859	0.3441
Cultural heritage and cultural dissemination of Chinese medicine	0.19426	0.0096	0.0257	0.283	0.3087	0.373

### 2.3.2 Score policy effectiveness based on fuzzy comprehensive evaluation

Upload these evaluation matrices to the SPSSAU software for a fuzzy comprehensive evaluation, with the final results shown in the table below:

The policy benefits of social security incentive mechanism are vaguely subordinate to the table:

Fuzzy membership degree table of policy benefit of social security incentive mechanism

Degree of membership	The result of the weight calculation				
	Very dissatisfied	I'm not satisfied	General satisfaction	Very satisfied	Very satisfied
	0.007	0.028	0.36	0.376	0.228

Fuzzy membership table of policy efficiency of social security incentive mechanism					
The result of the weight calculation					
	Very dissatisfied	I'm not satisfied	General satisfaction	Very satisfied	Very satisfied
Attribution of membership (weight)	0.007	0.028	0.36	0.376	0.228
Degree of membership Attribution of membership (weight)	0.008	0.032	0.41	0.346	0.204
Degree of membership Attribution of membership (weight)	0.008	0.032	0.41	0.346	0.204

The policy value of social security incentive mechanism fuzzy membership table

The result of the weight calculation					
	Very dissatisfied	I'm not satisfied	General satisfaction	Very satisfied	Very satisfied
Degree of membership Attribution of membership (weight)	0.009	0.029	0.309	0.358	0.295
Degree of membership Attribution of membership (weight)	0.009	0.029	0.309	0.358	0.295

According to the fuzzy membership table, the index score can be calculated. The evaluation matrix of B1 is B1=(0.007, 0.028, 0.36, 0.376, 0.228), According to the grade evaluation, the assignment vector C=(20, 40, 60, 80,100) T is used to calculate the comprehensive index score, The score of B1 index is P1 = B1 \* C = 75.74.

In the same way  
 $P2=B2*C=74.12$   
 $P3=B3*C=78.02$

By multiplying the evaluation matrix of the first level index by the corresponding weight of the first level index, the comprehensive score of social security incentive mechanism is A = 73.54.

### 2.3.3 Evaluation of the effectiveness of the social security incentive mechanism for the Chinese medicine health industry

According to the five level scale analysis, the effectiveness below 47.5 is very poor, 47.5-62.5 is poor, 62.5-77.5 is average, 77.5-92.5 is good, 92.5 and above is

very good. The comprehensive score of the social security incentive mechanism of Chinese medicine health industry is 75.74, ranging from 62.5 to 77.5, which is of general effectiveness. The comprehensive score of social security policy efficiency of Chinese medicine health industry is 74.12, which is of general effectiveness. The comprehensive score of social security policy value of Chinese medicine health industry is 78.02, which is between 77.5 and 92.5, which is of good effectiveness. The comprehensive score of the effectiveness of the social security incentive mechanism of Chinese medicine health industry is 73.54, ranging from 62.5 to 77.5, belonging to the general effectiveness. In summary, we can see that the effectiveness of the social security incentive mechanism of Chinese medicine health industry is general, and there is still a lot of room for improvement. The government should urge the implementation of the policy, give full play to the effect of the policy, and promote the development of Chinese medicine health industry.

## 3 Countermeasures and suggestions

### 3.1 Countermeasures and suggestions to improve the effectiveness of policy efficiency

In view of the actual development of the health industry of traditional Chinese medicine, the government can strengthen the protection in several aspects urgently needed by the people, so as to improve social benefits and promote the harmonious and stable development of society.

First, in the aspect of medical insurance reimbursement, many government documents do not clearly explain the content of this piece, which is relatively vague. Therefore, there are many difficulties in the daily reimbursement of traditional Chinese medicine medical insurance, which is not conducive to the people's medical treatment and the development of traditional Chinese medicine. It is suggested that each government should formulate a scientific and reasonable reimbursement ratio according to the policy documents issued by the state in this regard and combined with expert opinions, and clearly mark it in the documents, and publicize the relevant policies to the residents, so as to improve the residents' understanding of the policies and facilitate the residents to use traditional Chinese medicine diagnosis and treatment methods.

Second, improve the basic level of Chinese medicine service institutions with an appropriate proportion of doctors and other medical resources. According to the official data, the human resources of traditional Chinese medicine at the grass-roots level are insufficient to meet the needs and wishes of residents using traditional Chinese medicine diagnosis and treatment methods. The government needs to strengthen the directional training of talents in Colleges and universities.

Thirdly, in other aspects, health care, health tourism, the combination of traditional Chinese medicine recuperation and elderly care, diet therapy and other aspects have great development potential. They are still in the initial stage and need government policy guidance. Of course, many places have developed their own traditional Chinese medicine industry in combination with their own

local development of traditional Chinese medicine. For example, the herbal medicine market in Anhui's Bozhou, known as "the hometown of Huatuo" and "the hometown of Cao Cao", is the world's largest herbal medicine trading center. Hainan's tourism industry, combined with traditional Chinese medicine dietotherapy and acupuncture therapy health care projects are also in the development stage, requiring a large number of cross-border cooperation. The government should introduce some policies on talent introduction.

### **3.2 Countermeasures and suggestions to improve the efficiency and effectiveness of policy**

Policy efficiency mainly depends on policy value output and policy input. If policy input is large and output value is small, policy efficiency is low, which is undoubtedly a headache. Policy input should be combined with the appeals and opinions of the people, the government, experts and all sectors of society to formulate scientific and reasonable policies to promote the development of traditional Chinese medicine health industry.

In terms of value output, the health industry of traditional Chinese medicine is the product of the modernization of traditional Chinese medicine. The health industry of traditional Chinese medicine integrates the four fields of culture, health, education and tourism. It is suggested that the health industry park of traditional Chinese medicine should be established to integrate these four fields, form an industrial cluster with industrial effect and expand economic effect.

### **3.3 Countermeasures and suggestions to improve policy value**

To enhance the social security policy value of Chinese medicine health industry, we should start from the following aspects.

The first is to improve the general environment of people's cognition of traditional Chinese medicine. The first is to improve the limitations of the public's understanding of traditional Chinese medicine. We need to think about how to integrate traditional Chinese medicine culture into the life of residents and form the cultural consciousness and cultural confidence of "believing in, loving and using traditional Chinese medicine". Secondly, the young generation is the successor of the country. It is more valuable for young people to contact, understand, trust and use traditional Chinese medicine for the cultural inheritance and dissemination of traditional Chinese medicine. With social media as the platform and cultural innovation as the carrier, it is easier for young people to understand and trust traditional Chinese medicine.

Secondly, in terms of human resources, the government should formulate the social security mechanism of Chinese medicine health industry on the basis of fully understanding the current situation of Chinese medicine health industry. To improve the satisfaction of Chinese medicine workers, and improve

the amount of social security fund for entrepreneurs of Chinese medicine health industry according to the situation, so as to provide better social security for the active entrepreneurs of this industry. Let the practitioners of the emerging industry have a better employment experience, let them more actively participate in the Chinese medicine health industry.

Third, practitioners in the three Chinese medicine and health industries need the knowledge of traditional Chinese medicine and other abilities to be integrated. The government should increase the training of talents in this field. The university establishes interdisciplinary subjects of traditional Chinese medicine and e-commerce, and at the same time, it builds a marketing competition for health industry of traditional Chinese medicine, and exercises students' ability of innovation and entrepreneurship. In addition, to ensure the professional employment of students, to understand the relevant employment information.

## **4 Conclusions and prospects**

In this paper, AHP and fuzzy comprehensive evaluation are used to study the effectiveness of social security incentive mechanism of Chinese medicine health industry. Through the research results, we can see that the effect of incentive mechanism in this aspect is general, and there is still a lot of room for improvement.

The government pays more and more attention to the health industry of traditional Chinese medicine, and constantly supports the policy. The people's understanding of traditional Chinese medicine is more and more extensive. More and more people have cultural consciousness and cultural confidence in the national traditional Chinese medicine culture. The development of traditional Chinese medicine is gradually modernized, and has new significance in the new era. Chinese medicine health industry will develop better and better, more and more into all aspects of people's life.

#### **ACKNOWLEDGMENT**

Supported by the scientific research fund of traditional Chinese medicine of Hubei Provincial Health Commission (Project No. ZY2021Q041)

## **Resources**

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