The Influence of Health Insurance on Patient’s Health Treatment Seeking Behavior—The Case of Rural China

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Abstract. This paper assesses the effect of the New Rural Cooperative Medical Scheme (NRCMS) on rural patients’ health treatment seeking behavior in view of health care demand. Using data from 2004, 2006 and 2009 waves of China Health and Nutrition Survey (CHNS), the paper estimates the effect of health insurance based on the method of Multinomial Logit Model. The result shows that enrollment in NRCMS significantly improves the utilization of formal medical service. Furthermore, we find that age plays significantly negative role in choosing formal health service and gender has nothing to do with the choice of health treatment. High income significantly increases the utilization of private medical service. The severity of disease and chronic disease are significant factors in choosing formal medical service. While the NRCMS coverage is increasing, the insured are more likely to choose self-treatment.

Introduction

Health is an important practical ability, while diseases can deprive people’s practical ability and push them into poverty [1]. Because timely access to proper treatment is not available, diseases have become one of the main reasons of anchoring many people in poverty. In recent years, along with rapidly aging population in China and inflation, the demand for health care and the price of medical services are both increasing. High out-of-pocket costs for health care and inadequate health care have become serious problems [2]. According to the investigation of China Health Organization, the effect of poverty due to diseases is increasing, especially in rural areas. The rate of poverty caused by diseases rose from 21.6% in 1998 to 37.8% in 2008 [3]. It is one of the major challenges in the development of rural China to solve the poverty problem caused by diseases.

As one of three basic medical insurance, the New Rural Cooperative Medical Scheme (NRCMS) combining insurance and social assistance initiatives started in 2003. As a voluntary system, the goal of NRCMS is to overhaul the healthcare system, particularly intended to make it more affordable for the rural poor [4]. By 2012, the insurance coverage of NRCMS exceeded 98%, while the number of people enrolling in the NRCMS arrived at 805 million [5]. Although NRCMS is designed to reduce out-of-pocket spending, the majority of outpatient services are not covered, which leads many people still unable to visit doctors. According to the China National Health Household Interview Surveys, we find that the utilization of health service is failing, especially in rural areas of western China [6].

Another problem is that the utilization pattern of outpatient services is changing. The details of NRCMS show that the outpatient reimbursement of different pattern the patients benefit is different. If the patients visit village clinic in their local town, the scheme will cover 70%-80% of their bill, while if they visit town hospital, the coverage decreases to 60%, and if they visit the higher-level hospital, the scheme may cover only about 30% [7]. According to the Chinese health statistical digest, annual visits to county hospitals or higher-level hospitals increased from 1.252 billion to 1.471 billion [8].
There are many papers researching the affecting factors in the patient’s health treatment seeking behavior with the development of health economics. First, the individual identity and household status influence the individual health treatment seeking behavior, such as age, gender, incomes [9,10,11]. The price elasticity of demand for outpatient care is higher for the low-income than for the high-income [12]. Second, the features of medical institutions can affect the choice of patient’s health treatment. As a general rule, patients tend to choose the medical institute with low price and high quality [9,13,14]. Third, medical needs are significant factors in seeking health treatment. Using the severity of disease and history of chronic conditions? To measure medical needs, some empirical studies show medical needs significantly improve the patients to use formal health service [10,15,16]. Fourth, public health care system influences the patient’s health treatment seeking behavior. The insured patients are more likely to use outpatient facilities from public providers, especially the patients with low income based on analyzing Vietnamese Health Insurance [17]. The insurance increases the likelihood of hospital admission and the influence varies according to different income [18].

Turning to the effects of NRCMS on patient’s health treatment seeking behavior, the exiting evidence is very limited. Distance between medical institute and patient’s home and enrollment in NRCMS are important factors in health treatment seeking behavior based on the survey data in Gansu province [19]. Compared to the enrollment in NRCMS, the price of health care has more significant effect on the medical utilization [20]. Participation in NRCMS significantly increased the utilization of formal medical care based on the rural data of 2004 and 2006 from China Health and Nutrition Survey (CHNS) [21]. Above the previous study, the NRCMS is at an early stage of development. To evaluate the influence of NRCMS on individual choice of health care provider, the issue needs re-examining.

In this paper, we examine the determinants of health providers in the view of health demand, especially the influence of enrollment in NRCMS on health treatment seeking behavior. The scheme has increased the reimbursement for proportion and gradually reduced the compensation expense pay line of medical expense in village clinics and township hospitals. It is difficult to establish a causal relationship between health insurance coverage and better health [22]. Does the NRCMS improve utilization of health service for those people enrolling in the NRCMS? What factors influence patient’s health treatment seeking behavior?

The paper is organized as follows. The next section provides a description of the theoretical model of health treatment seeking behavior, followed by data and variables. The empirical results are then presented. The final section provides a discussion of relevant issues and policy implications.

1. Methods

The paper constructs the model from the viewpoint of medical needs. Firstly, we suppose the medical needs of patient are real needs. The patient has problems to some extent if he feels uncomfortable. Secondly, the patient meets the rational person hypothesis when seeking health treatment.

The essence of patient’s health treatment seeking behavior is that one selects a given option on the basis of utility-maximizing behavior. Following Borah [12], the utility function is defined as

\[ U_i = U(C_i, H) \]

where \( C \) is consumption of goods other than medical care after patient \( i \) paying for the cost of a provider and \( H \) is the expected level of improvement after receiving treatment. The utility function is also meeting the assumptions:

\[ U_c > 0, \ U_{cc} < 0, \ U_h > 0 \quad \text{and} \quad U_{hh} < 0. \]

The production function for health of receiving treatment from provider \( j \) is

\[ H_j = H(X_{ij}) \]

where \( X_{ij} \) includes the factors of medical demand and supply. Because of the availability of data, \( X_{ij} \) is a set of individual or household variables, such as enrollment in NRCMS, age, gender, marital status, income, household size, severity of illness and so on.
We assume the budget of an individual is

$$C_i + p_j = I_i$$  \hspace{1cm} (1)

Where $I_i$ is the income, $p_j$ is the price of medical care. The reimbursement of NRCMS influences the price of health care provider $j$. Therefore, according to the utility-maximizing behavior, the patient choosing medical provider $j$ must obey the following formula:

$$\max U_j(C_j, H_j)$$

$$s.t. C_j + p_j = I_i$$  \hspace{1cm} (2)

In our model, the functional form for income and price is in line with Gertler et al. [23,24]. The utility that the patient derives from provider $j$ is given by

$$U_j = \alpha_j + \beta_j X_{ij} + \epsilon_{ij}$$  \hspace{1cm} (3)

Where $\alpha_j$ represents the consumer’s valuation of unobserved attributes and $\epsilon_{ij}$ is an error that represents the random perturbed variables.

If $U_{ij} > U_{im}$, the probability of patient $i$ choosing provider $j$ is

$$\Pr(Y_i = j) = \Pr(U_{ij} > U_{im})$$  \hspace{1cm} (4)

Suppose further that these $j$ random perturbed variables follow Weibull distribution, the probability of patient’s health treatment seeking behavior is

$$\Pr(Y_i = j) = \frac{e^{\beta_j X_{ij}}}{1 + \sum_{m=0}^{J} e^{\beta_m X_{im}}}$$  \hspace{1cm} (5)

This is the Multinomial Logit Model. Parameters in the model are obtained by using the method of maximum likelihood estimation.

2. Data and Variables

2.1 Definition of variables

The data for this study come from the household survey in rural areas in CHNS, conducted by the Carolina Population Center at the University of North Carolina at Chapel Hill and the National Institute of Nutrition and Food Safety at the Chinese Center for Disease Control and Prevention. The study population is drawn from the nine provinces, Guangxi, Guizhou, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Liaoning, and Shandong. A multistage, random cluster was used to draw the sample surveyed in each province. According to the research thesis, the paper selects three years sample of 2004, 2006 and 2009. First, most of rural households in the survey did not participate in the NRCMS in 2004, because the government initiated the experiment in the nation in? 2003. By 2009, the coverage of NRCMS reached 94.19% [25]. Second, the questionnaire designs of the three years are basically the same. There are no differences in the key variables of type of insurance and type of health care providers.

Information on health care utilization was collected during the most recent illness spell occurring in the past four weeks prior to the survey. Out of the total sample, 2534 individuals had been ill during the past four weeks preceding the survey of 2004, 2006 and 2009. The behavior of these individuals is analyzed in the following analysis. Firstly, we focus on the first contact with health treatment choices during the most recent illness spell. Health treatment choices are classified in two ways: self-treatment and seeking a health care provider. Secondly, the choices of providers include village clinic, private clinic, town hospital, county hospital. Because the options of “did not pay any attention” and “self-treatment” do not represent using formal health service, the paper combines the two options as “self-treatment” [26].

The survey contains a rich set of socio-economic information, including the details of household
information. By this design, the variables include institutional factors, individual factors, household economy factors, medical needs factors, and regional factors.

Insurance type is divided into 8 main types: commercial insurance, free medical service, worker’s compensation, insurance for family members, cooperative insurance, unified planning medical service, health insurance for women and children, and expended program of immunization insurance for children. Focusing on the effect of cooperative insurance (NRCMS) on patient’s health treatment seeking behavior, the study chooses the individuals who enrolled in the NRCMS or did not have any insurance. The individual factors are limited to age, gender, marital status.

Compared with the patients with low income, the patients with high income are more inclined to seek formal medical provider with higher quality. Meanwhile the opportunity cost is higher for the patient with high income after using formal medical provider. In our study, we choose household size and per capita household income to evaluate the effect of household economy on health treatment seeking behavior.

The medical needs factors mainly include the severity of disease and disease history. As we all know, there are some differences in the scope of service and the skill levels between the different providers. For instance, village clinics mainly provide basic medical service of treating common sickness, while county hospital is the highest level provider with better reputation or skills in the survey. Meanwhile, disease history plays an important role in the effect on health treatment seeking behavior as one of objective criterion for the evaluation of the individual health status.

Region is measured through a set of dummy variables (see table 1). Following Wang et al. [27], the nine provinces are classified into east region, middle region and west region.

2.2 Data summary and simple analysis

Table 1 reports the distribution of type of health treatment obtained, which suggests that patients in the survey are more likely to use health services. Among these statistics, 36.87% opted for self-treatment in 2004, 23.40% attended a village clinic, 10.05% went to a private clinic, 15.75% sought care at a town hospital, 13.93% opted for a country hospital. Whatever in 2004, 2006 or 2009, the probability of patients sought care at formal medical provider is higher than self-treatment. Table 2 describes the variable definitions and descriptive statistics. We also assess the interaction terms of enrollment dummies with severe illness, income, and year to estimate how insurance affects utilization of health care of provider differentially across these dimensions.

<table>
<thead>
<tr>
<th>Year</th>
<th>Sample</th>
<th>Self-treatment</th>
<th>Village clinic</th>
<th>Private clinic</th>
<th>Town hospital</th>
<th>Country hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>876</td>
<td>36.87%</td>
<td>23.40%</td>
<td>10.05%</td>
<td>15.75%</td>
<td>13.93%</td>
</tr>
<tr>
<td>2006</td>
<td>751</td>
<td>30.63%</td>
<td>27.69%</td>
<td>12.92%</td>
<td>15.58%</td>
<td>13.18%</td>
</tr>
<tr>
<td>2009</td>
<td>908</td>
<td>31.49%</td>
<td>29.29%</td>
<td>10.68%</td>
<td>15.64%</td>
<td>12.9%</td>
</tr>
</tbody>
</table>

Table 2. Variable definitions and descriptive statistics.

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Independent Variable definitions</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>institutional factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrollment</td>
<td>= 1 if enrolling in the NRCMS; = 0 otherwise</td>
<td>0.549</td>
<td>0.497</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>individual factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>age</td>
<td>age</td>
<td>54.966</td>
<td>14.806</td>
<td>18</td>
<td>96</td>
</tr>
<tr>
<td>gender</td>
<td>= 1 if male; = 0 otherwise</td>
<td>0.409</td>
<td>0.492</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Marital status</td>
<td>= 1 if married; = 0 otherwise</td>
<td>0.825</td>
<td>0.379</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Household economy factors</td>
<td>Per capital household income (unit: thousand yuan)</td>
<td>6.913</td>
<td>10.072</td>
<td>0</td>
<td>293.388</td>
</tr>
<tr>
<td>Household size</td>
<td>Household size</td>
<td>3.813</td>
<td>1.778</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Medical needs factors</td>
<td>somewhat severe = 1 if somewhat severe; = 0 otherwise</td>
<td>0.467</td>
<td>0.499</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Quite severe = 1 if quite severe; = 0 otherwise 0.112 0.315 0 1
Disease history = 1 if have one or more kinds of high blood pressure, diabetes, myocardial infraction, and apoplexy; = 0 otherwise 0.186 0.389 0 1
Regional factors
East = 1 if east; = 0 otherwise 0.322 0.467 0 1
Middle = 1 if middle; = 0 otherwise 0.391 0.488 0 1
2006 year = 1 if 2006 year; = 0 otherwise 0.296 0.457 0 1
2009 year = 1 if 2009 year; = 0 otherwise 0.358 0.479 0 1
Somewhat severe
*Enrollment 0.253 0.435 0 1
Quite severe*Enrollment 0.062 0.240 0 1
income*enrollment  4.843 10.353 0 293.388
2006 year*enrollment 0.163 0.369 0 1
2009 year* enrollment 0.336 0.472 0 1

3. Results

The Multinomial Logit Model (MNL) was estimated using Stata11.0. The MNL model relies on the assumption of independence of irrelevant alternatives (IIA). It says that the odds of preferring one choice over another do not depend on the presence or absence of other irrelevant alternatives. If the MNL model does not meet the assumption, the results of MNL model are invalid. IIA assumption inherent in MNL model is most frequently tested with a Hausman-McFadden test. According to the Hasusman-McFadden test, if a subset of choice alternatives is irrelevant, it can be omitted from the sample without changing the remaining parameters systematically. Table 3 reports the results of Hasusman-McFadden test. By examining the output from Hasusman-McFadden test, we find that there is no evidence that the IIA assumption has been violated.

Table 3. Hasusman-McFadden test.

<table>
<thead>
<tr>
<th>Omitted choice</th>
<th>Chi2</th>
<th>P &gt; chi2</th>
<th>conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village clinic</td>
<td>4.29</td>
<td>1.00</td>
<td>Not to reject the null hypothesis</td>
</tr>
<tr>
<td>Private clinic</td>
<td>0.18</td>
<td>1.00</td>
<td>Not to reject the null hypothesis</td>
</tr>
<tr>
<td>Town hospital</td>
<td>-0.99</td>
<td>1.00</td>
<td>Not to reject the null hypothesis</td>
</tr>
<tr>
<td>County hospital</td>
<td>-3.06</td>
<td>1.00</td>
<td>Not to reject the null hypothesis</td>
</tr>
</tbody>
</table>

Notes: H0: difference in coefficients not systematic.

The Relative Risk Ratio (RRR) means the ratio of the probability of choosing one outcome category over the probability of choosing the baseline category. Table 4 displays the results of MNL model including RRR.

Table 4. MNL model of patient’s health treatment seeking behavior.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Village clinic</th>
<th>Private clinic</th>
<th>Town hospital</th>
<th>County hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment</td>
<td>parameter</td>
<td>RRR</td>
<td>parameter</td>
<td>RRR</td>
</tr>
<tr>
<td>0.940***</td>
<td>2.560</td>
<td>-0.422</td>
<td>0.656</td>
<td>0.927**</td>
</tr>
<tr>
<td>age</td>
<td>-0.002</td>
<td>0.998</td>
<td>-0.016***</td>
<td>0.984</td>
</tr>
<tr>
<td>gender</td>
<td>-0.127</td>
<td>0.880</td>
<td>-0.123</td>
<td>0.884</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.127</td>
<td>1.136</td>
<td>-0.177</td>
<td>0.838</td>
</tr>
<tr>
<td>income</td>
<td>-0.008</td>
<td>0.992</td>
<td>0.063***</td>
<td>1.065</td>
</tr>
<tr>
<td>Household size</td>
<td>0.063**</td>
<td>1.066</td>
<td>0.007</td>
<td>1.007</td>
</tr>
<tr>
<td>somewhat severe</td>
<td>0.323*</td>
<td>1.381</td>
<td>0.241</td>
<td>1.273</td>
</tr>
<tr>
<td>Quite severe</td>
<td>0.548*</td>
<td>1.730</td>
<td>0.401</td>
<td>1.493</td>
</tr>
<tr>
<td>Disease history</td>
<td>-0.167</td>
<td>0.846</td>
<td>0.124</td>
<td>1.132</td>
</tr>
<tr>
<td>East</td>
<td>-0.178</td>
<td>0.837</td>
<td>-1.038***</td>
<td>0.354</td>
</tr>
<tr>
<td>Middle</td>
<td>0.244*</td>
<td>1.276</td>
<td>-0.254</td>
<td>0.776</td>
</tr>
<tr>
<td>2006 year</td>
<td>0.512***</td>
<td>1.669</td>
<td>0.533**</td>
<td>1.705</td>
</tr>
</tbody>
</table>
In the MNL model, self-treatment choice is kept as the base choice and hence the coefficient estimates for the other choices should be interpreted relative to self-treatment.

The estimated measure of Enrollment is statistically significant and has a positive sign for each public provider model. With other conditions unchanged, the probability of the insured choosing village clinic, town hospital and county hospital is 2.560, 2.526 and 2.568 times of self-treatment. It implies that the insured is more inclined to use formal medical service. Furthermore, the probability of the insured choosing county hospital is 1.003 times of village clinic (formula: 2.568 is divided by 2.560) and 1.002 times of town hospital (formula: 2.568 is divided by 2.526). The main reason is that NRCMS reduces the medical care burdens of the rural patient and promotes them to use formal medical service to some extent by government’s subsidy and shielded by third-party payers. Although village clinic is a basic medical institution which providing partial coverage for health care, it is the first choice of seeking formal medical service followed by referrals. Patients in China prefer large hospital with high quality equipment and high skilled doctors because of unbalanced distribution of medical resources.

The estimated coefficient of age is negative for provider choice, and is significant in choosing private clinic and county hospital, implying that the patient is more inclined to choose self-treatment as he gets older. Maybe the reason of this result is the high price of health care service. The patient’s health treatment seeking behavior is independent of gender. Compared with unmarried, the married patients have a higher probability of choosing county hospital relative to self-treatment.

The coefficient of income is positive for formal provider, but only is significant in choosing private clinic. RRR indicates that the probability of choosing private clinic is 1.065 times of choosing self-treatment for the patient with high income. Compared with self-treatment, the probability of choosing village clinic is 1.066 for the patient with bigger household size.

The disease degree is also a significant factor, affecting the choice of patient’s health treatment seeking behavior. Relative to self-treatment, the rural patient is more likely to visit village clinic, town hospital and county hospital when he feels the disease somewhat severe. And the probability of choosing county hospital is 3.667 times of choosing village clinic. When the patient feels the disease quite severe, he is inclined to visit town hospital and county hospital. Furthermore, the probability of choosing county hospital is 11.870 times of choosing village clinic when the patient feels disease quite severe. The reason may be that high level hospital has better medical equipment and high skills. Chronic patients have a significantly high probability of visiting doctor at town hospital and county hospital relative to self-treatment. Because chronic patients are sensitive to their health status and worry about the disease influencing the chronic diseases, they have to visit doctors at high standard level formal hospital.

The patients who live in east region are more likely to choose self-treatment, while the patients who live in middle region are more likely to choose formal medical service. The reason may be that there are many drug shops and other self-treatment methods.

<table>
<thead>
<tr>
<th></th>
<th>2009 year</th>
<th>2009*year</th>
<th>2006year</th>
<th>Enrollment*income</th>
<th>Enrollment</th>
<th>Constant</th>
</tr>
</thead>
<tbody>
<tr>
<td>somewhat severe</td>
<td>0.536</td>
<td>0.147</td>
<td>-1.030***</td>
<td>0.003</td>
<td>0.519</td>
<td>-0.953**</td>
</tr>
<tr>
<td>quite severe</td>
<td>1.709</td>
<td>1.159</td>
<td>0.357</td>
<td>-0.066***</td>
<td>1.680</td>
<td>-0.266</td>
</tr>
<tr>
<td></td>
<td>0.662</td>
<td>0.477</td>
<td>0.130</td>
<td>0.936</td>
<td>2.180</td>
<td>-1.473***</td>
</tr>
<tr>
<td></td>
<td>1.939</td>
<td>0.075</td>
<td>1.139</td>
<td>-0.203</td>
<td>1.472</td>
<td>-1.965***</td>
</tr>
<tr>
<td></td>
<td>0.205</td>
<td>0.099</td>
<td>-1.251***</td>
<td>-0.016</td>
<td>0.978</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.104</td>
<td>-0.493</td>
<td>0.286</td>
<td>0.984</td>
<td>0.611</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-0.666</td>
<td></td>
<td>0.514</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2534</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-3651.707</td>
</tr>
</tbody>
</table>

Notes: self-treatment is looked as baseline category. *** significant at 1% level; ** significant at 5% level; * significant at 10% level.
According to the results of MNL model, the influence of enrollment in NRCMS affecting patient’s health treatment seeking behavior is not related to the severity of disease. The estimated coefficients for the two interaction terms of enrollment and severity of disease are not statistically significant. It implies that patient’s health treatment seeking behavior has nothing to do with enrollment wherever the disease is serious.

The estimated coefficient of interaction term of income and enrollment is statistically negative at the 0.01 level for choosing private clinic. It indicates the patient is more likely to seek self-treatment from these providers.

It is apparent from table 4 that patient’s health treatment seeking behavior is related to the policy changes. The interaction terms of year and enrollment are statistically significant at the 0.01 level for visiting village clinic relative to self-treatment. It indicates that patient who enrolled in NRCMS is inclined to choose self-treatment as time goes.

4. Discussion and Conclusion

This paper assesses the influence of NRCMS on patient’s health treatment seeking behavior in rural China during 2004 to 2009 year. The results suggest that health service seeking behavior is related to institutional factors, individual characteristic, family economy, medical factors and regional factors.

Enrollment in NRCMS significantly increased to the use formal medical service by patients in rural region, which is consistent with other studies. Some studies find that insurance schemes encourage insurance patients to use formal health service [28,29,30]. In the paper, patients who enrolled in NRCMS are more likely to visit village clinic, town hospital and county hospital relative to self-treatment. Enrollment in insurance improves the availability of medical service. On the other hand, the probability of visiting county hospital is higher than village clinic and town hospital for the insured. It is incompatible with the purpose of improving basic utilization of health care service. The main reason may be that the reimbursement of NRCMS is not perfect and the equipment or skills of basic medical institute are poor. Reasonable allocation of medical resources is the key of further reforms of NRCMS. Moreover, NRCMS should expand reimbursement of visiting basic medical institutions and strictly rule referral system in order to avoid waste of medical resources.

Income significantly improves the utilization of medical service [19]. Individuals with high incomes have a higher probability of seeking higher level and higher quality medical service relative to self-treatment. The empirical study shows that the probability of choosing private clinic is 1.065 times of choosing self-treatment for rural patients at 0.01 significant level. It may be related to the high efficiency and good treatment environment of private clinic. In the further reforms, government should relax the market access threshold in medical service market and improve the quality of medical service by encouraging healthy competition in the market.

We also find severe disease and disease history play an important role in promoting utilization of formal medical service. Patients are more likely to visit village clinic and county hospital when the disease is somewhat severe. But patients are inclined to choose county hospital when the disease is quite severe. The study shows that patients with chronic disease are more likely to visit town hospital and county hospital because they are sensitive to health status.

The coefficients of interaction terms are statistically significant in patient’s health treatment seeking behavior.

The insured have a higher probability of seeking private clinic relative to self-treatment while the disease is somewhat severe. But when the disease is quite severe, the choice of health treatment seeking behavior is not related to enrollment. Individuals with high incomes are inclined to choose self-treatment. It may be related to the convenience of visiting doctors, and the order from high to low is county hospital, town hospital, private clinic and village clinic. The waiting time and opportunity cost of visiting doctors is related to the type of hospital, from high to low is county hospital, town hospital, private clinic and village clinic [20]. Compared to self-treatment, the opportunity cost of visiting doctors at formal medical institutes for the patients with high incomes is higher. The interaction term of enrollment and time shows that patients who enrolled in NRCMS are
more likely to choose self-treatment relative to village clinic and town hospital in more recent years. The reimbursement of designated drugstore may be the positive reason. Self-treatment is more convenient than visiting doctors at hospital, especially in the era of knowledge economy. In further reforms, we should strengthen the relevant institutional framework to promote private clinic and drugstore healthy developing conjunction with the current basic drug system.

The paper focuses on the effect of NRCMS on rural patient’s health treatment seeking behavior. The empirical study shows that NRCMS is an important factor affecting the health treatment seeking. While the health function of patients is also limited to the medical institution, the price of medical service and quality of medical service in medial institution cannot be accurately measured because of lack of statistical data. It also provides new ideas for further research.

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References


