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# **Patient Preferences, Concerns, and Satisfaction with Providers before the Chinese Urban Health System Reform: A Social Groups Analysis**

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## Abstract

Many Chinese express dissatisfaction with their healthcare system with the popular phrase *Kan bing nan, kan bing gui* (“medical treatment is difficult to access and expensive”). Critics have cited inefficiencies in delivery and poor quality of services. Determining the pattern of patient satisfaction with health services in China—and the causes of patient dissatisfaction—may help to improve health care not only in China but in countries in similar predicaments throughout the world.

Using data from a sample of 5,036 residents from 17 provinces collected in a 2008 household survey by the National Bureau of Statistics of China, we analyze the patterns of patient preferences, concerns, and satisfaction among six social groups, classified by socioeconomic status including education level, income, and type of employment.

From regression results we conclude that the gap between what patients predict their service will entail and what they perceive the service actually did entail is the key determinant of lower satisfaction, especially for patients who care most about the quality of service and patients with higher social positions. Patients from lower social groups are more concerned with price and the attitudes of medical professionals, and generally express higher satisfaction with their health care experiences than their wealthier peers, despite receiving lower-level services. Patients with higher social positions are more concerned with the technical competence and quality of providers, and struggle with what they perceive as a lack of freedom to purchase and receive their desired services, as well as long waiting times and poor physician-patient interactions. These patterns of patient satisfaction appear to be the consequence of China’s unreliable basic delivery system, lack of advanced health service supply, and distorted health market. We discuss how what we have learned about patients’ dissatisfaction can be used to restructure the delivery system to better meet and shape patients’ needs.

### Keywords

Patient satisfaction, preference, concern, expectation, social groups

### Key messages

Patient satisfaction is gauged to evaluate the quality of health care services.

Social groups are classified by their major socioeconomic status, such as education level, income, and job status.

The gap between what patients predict their service will entail and what they perceive the service actually did entail is the key determinant of lower satisfaction.

## Introduction

The core mission of China's public health care system is to provide health benefits to residents. But judging the quality of those benefits is a difficult matter. In 2003 the central government established a new plan to improve public services, including the health care delivery system. But it was not until the reforms of 2008 were enacted that residents began to embrace the system; most had previously expressed dissatisfaction with it and subscribed to the popular statement *Kan bing gui, kan bing nan* ("medical treatment is difficult to access and expensive"). Critics cited inefficiencies in delivery and poor quality of services (Eggleston *et al.* 2008).

How can one judge the veracity of these claims? One useful tool is to measure patient satisfaction, which has become a key criterion by which the quality of health care services and the encounters between medical professionals and patients may be evaluated. As is the case in many other developing countries, the Chinese health care system is now facing the challenge of how to meet residents' increasing demands for quality health care while controlling costs, maintaining strong economic growth, and meeting other social development goals. Thus, determining the pattern of patient satisfaction—and the causes of patient dissatisfaction—may help to improve health care not only in China but in countries in similar predicaments throughout the world.

Until now, there have been few systematic studies of patient satisfaction in urban China. In part this is because patients' needs and expectations are extremely complex and contextual: both the social structure and institutional setting—that is, both the capacity of the delivery system and its dynamics—must be taken into account. We aim to do just that. On a practical level, we want to find out what Chinese urban residents' concerns and preferences regarding health services are and how they are changing, determine the factors that influence their satisfaction or lack thereof, and analyze the patterns among a variety of social groups within the social frameworks and institutional settings of transitional Chinese society. At the same time, our theoretical aim is to expand the research on the impact of patients' socioeconomic status (SES) and other personal characteristics on their satisfaction and other perceptions of health care quality, and to link their SES with their position in the health care system. To perform this kind of analysis, we use the social group or social stratification analysis approach, which views the pattern of patient concerns, preferences, level of satisfaction and the factors that influence these variables through the lens of the broad social structure and its evolution.

In our paper, we first provide a literature review and framework for our analysis, and then, in part 2, we describe our methods and data collection strategy. In the next section we explore the patterns of patient preferences, concerns, and satisfaction and their relations SES; we perform a structural difference aggression analysis of the different correlations between the preferences and concerns and the level of satisfaction among six social groups; and we discuss how the patterns of satisfaction varied across groups. Finally, we examine the policy implications of our research: How can what we have learned about patients' dissatisfaction be used to restructure the delivery system to better meet and shape their

needs?

### **Literature review and analysis in the Chinese institutional context**

The social factors impacting the patterns and changes of patient satisfaction are always embedded in the institutional environment. In our paper we introduce some key variables in the Chinese institutional context, especially in the transitional health care delivery system and social welfare system, to explain the general patterns and differences among patients from varying social groups.

In the Chinese delivery system, health resources were allocated on the basis of social status, which was largely determined by the patient's working unit and job title, especially prior to reform. As a result there were serious inequalities in residents' health benefits (Liu *et al.* 1999). Along with the economic reform and compensation system reforms in the State owned enterprises and other government-related enterprises, a new social health insurance program was introduced for the employees of the SOEs but health benefits did not improve for patients with lower SES, according to an empirical study (Liu *et al.* 2002). Although some programs including basic medical insurance for urban residents, insurance for work injury aim to increase social insurance coverage, the inequality of health benefits among social groups has not been overcome (Liu and Zhao 2006, Tang *et al.* 2008, Hu *et al.* 2010).

Patient satisfaction with health service delivery organization is influenced by how the patient subsequently evaluates the experience. It is also linked to the patient's overall life satisfaction, another subjective determination (Diener *et al.* 1999). But it cannot be separated from the social and institutional environment in which both patient and provider are embedded. Patient's SES not only reflects their position in society but influences all aspects of their health care experience: which health resources they can attain, their preferences, and their concerns, all based on prior historical interactions. Thus, although it has not yet been proven that SES has a positive effect on patient satisfaction, most researchers nonetheless use a patient's personal characteristics, including both general demographic information and SES, to explain the patterns and the changes that take place from the expectations prior to service to self-reported recovery and final satisfaction (Young *et al.* 2000; Linder-Plez 1982b).

Patient satisfaction is regarded as an attitudinal response to value judgments that patients make about their clinical encounter (Kane *et al.* 1997), including an assessment of its quality (Waitzkin 1991) and an evaluation of specific treatments and related providers (Coulter 1991). Thus, satisfaction reflects not only the patients' judgment and assessment of the health care experience but **also** their perception of the gap between what they wanted and what they received.

#### *The impact of socioeconomic status on expectations and satisfaction*

Members of different classes, by virtue of enjoying (or suffering) different social realities, have different aspirations, hopes, and fears, as well as different conceptions of what is desirable (Kohn 1963). Life satisfaction is an integral cognitive component of quality of life (Diener *et al.* 1999). As mentioned above, many researchers have argued that socio-demographic characteristics such as age, race, gender, and health status influence patient

satisfaction (Young *et al.* 2000; Malat 2002; Williams 1994; Hall and Dornan 1990; Henderson and Weisman 2005), while others regard these indicators as unimportant. There is also inconsistency among the results of studies on the relationship between the social status of patients and their level of satisfaction. Because SES is very complex and highly contextual, its influence on expectations, trust, adherence to medical counsel, perceived symptom resolution, and final satisfaction is dynamic and somewhat unpredictable. Thus, the effect of SES on patient satisfaction needs to be considered within the broader social structure. In other words, the micro-level process of the provider-patient interaction must be linked to more macro-level processes in society (Carr-Hill 1992).

The sociopolitical context of health care influences patients' feelings about their care (Calnan 1988). Negative beliefs about lower-class individuals and discrimination against the poor and those with less education are prevalent (Gans 1995; Rank and Chang 1995; Weber 1930). Because lower-SES individuals have a higher likelihood of having experienced unfair treatment due to their socioeconomic position, their expectations going in to a health care encounter tend to be lower than those of wealthier individuals. This is one aspect of SES's impact on patient satisfaction. Poor past experiences may affect patients' expectations and behavior, reducing their perceived quality of subsequent medical interactions. Most studies have shown that patients with relatively low social position will be less satisfied with their care than higher-status patients because they have poor interactions with medical providers, receive inadequate medical services due to discrimination, and lack the resources to **get** the services they want.

#### *The relationship between expectation and satisfaction*

Much research supports the contention that expectations predict evaluation of care and patient satisfaction (Abramowitz *et al.* 1987; Larsen and Rootman 1976; Linder-Pelz 1982a; Udry *et al.* 1972; Hsieh and Kagle 1991; Sheth and Mittal 1996). Expectation is an important element of patients' ratings because an evaluation of a health care provider's behavior is based on one's expectations for treatment—unmet expectations will lead to dissatisfaction and met expectations to satisfaction, which can be defined as the fulfillment of both wants and predictions (Malat 2002; Marple *et al.* 1997; Brody *et al.* 1989; Jackson *et al.* 2001). Buetow (1995) and Stimson and Webb (1975) are often cited as the first researchers to propose expectation as an important determinant of satisfaction with health care. They define background expectations as those based on the experiences of the patient in a clinical setting. Background expectations vary according to the particular illness and circumstances, but certain patterns of activity or routines are expected. To some degree, background expectations are shaped by past experiences, including routine behavior, history of visiting doctors, contacts with physicians in daily life, prior satisfaction with providers, and other people's experience. Sometimes expectations are influenced by institutional settings, **which make something to be cognized by public as the common perception, even to be taken for granted**, although are so deeply embedded in individuals' mind-sets and daily routines

#### *2.3 The explain framework of patient satisfaction using the socio- clinical- institutional settings approach*

<Figure 1 A framework for understanding the factors influencing patient satisfaction >

Unlike other studies on the relationship between patients' characteristics and their satisfaction, our paper stresses that patients' SES is a reflection of their social position and has an impact on their preferences and core concerns, which in turn influence their attention when they enter into a clinical encounter. At the same time, the institutional setting will also affect patient preferences and concerns, especially when they select a hospital, interact with their providers, and rate the services they received. Like other researchers, we consider the impact of expense reimbursement and self-reported recovery, **when** focusing on the changes in satisfaction patterns among various social groups. In our view, satisfaction with delivery organizations is determined not only by the SES of the patients but by their belief systems, their perceptions of the quality of the health system, and their experience with their providers. In other words, patient satisfaction is so complex and contextual that we have to select certain approaches to explore the differences among various groups. Here we focus on the influence of the social structure and health inequality on patients' demands of the delivery system and on their reported level of satisfaction. Understanding how the social structure influences patients' health care concerns and preferences is key to improving the delivery system and ensuring that all patients, regardless of their social status, are equitably treated and satisfied.

## Methods

Our analysis is based on the medical experiences of a sample of **5,036** residents from 17 provinces and municipalities in China; the National Bureau of Statistics collected the data in 2008 with household survey. In our paper we focus on the medical treatment experience, especially patient satisfaction with the provider.

In transition countries, social stratification has occurred in the areas of educational opportunity (Zhou *et al.* 1998), job attainment (Zhou *et al.* 1996), and income distribution (Zhou 2000; Peng 1992; Bian and Logan 1996). Likewise, differences in education and income (Bian and Logan 1996), as well as the nature of employment and job title (Zhou *et al.* 1996), contribute to social disparities in China's transitional period. Based on prior empirical studies of social stratification in urban China during this period, we selected six focus groups based on income, education level, and job status<sup>1</sup> and compared the patterns of overall satisfaction and sub-satisfaction within these groups. In order to avoid an overlap in the structural difference regression analysis, we divided the six focus groups into two subgroups: the education-income subgroup and the occupation-employment subgroup; there was no overlap within the subgroups.<sup>2</sup> We performed a structural difference regression analysis for each subgroup.

Next, we examined the distribution and correlation of the data. Based on our understanding of the study and its results, we built the framework of the study and did regression analysis on the data. In our paper, the linear model regression analysis, the structural difference model regression analysis, and the ordered probit model (see appendix for details) are employed to explain the relations among variables.

## Results and discussion

### Basic information on the satisfaction of respondents

We selected overall satisfaction with hospital-provide health care as the basic indicator of total service quality since this can reflect patient's overall judgment.

<Table 1 Overall satisfaction levels across various social groups>

### Overall satisfaction levels across various social groups

In this subsection we explore the factors influencing patients' overall satisfaction<sup>3</sup> and the structural differences of correlations among social groups.

#### *The differences in satisfaction of impact indicators among the six groups*

First we employ medical cost, nonmedical cost, informal payment including red packet (it's the monetary gift which is given to doctor as the bribe) as the expense,<sup>4</sup> and control the severity of the disease dummy variable and stage of disease dummy variable to do the regression analysis to find out the relationships between expenditures and overall satisfaction.

The impact indicator's benchmark coefficient shows us that nonmedical expenditure and red packet expenditure are significantly negatively correlated with patients' overall satisfaction while total expenditure and medical expenditure are not correlated with satisfaction. Considering the differences among the six groups, we find that for higher total expenditure or medical expenditure, patients in the high education-income group, employees of non-state entities, urban self-employed people, and entrepreneurs all show lower overall satisfaction than other social groups, while for higher nonmedical expenditure or red packet expenditure, only patients in the high education-income group show lower overall satisfaction.

Similarly, we perform a structural difference regression analysis on the impact indicators, including rehabilitation level,<sup>5</sup> reimbursement,<sup>6</sup> medical costs,<sup>7</sup> education,<sup>8</sup> income,<sup>9</sup> registered residence category,<sup>10</sup> time of residence,<sup>11</sup> and age<sup>12</sup> on satisfaction among the six groups, and control the severity of the disease dummy variable, stage of disease dummy variable, rehabilitation level dummy variable, and reimbursement and medical costs control variable.<sup>13</sup> The impact indicators' benchmark coefficient tells us that, in general, a higher rehabilitation level, a higher reimbursement, and a longer time of residence are usually correlated with lower overall satisfaction, while greater age is usually correlated with higher overall satisfaction. And the impact indicators' structural difference coefficient shows us that among the six groups, the respondents with higher education and income expressed lower overall satisfaction than other social groups (which is not consistent with the usual pattern in other countries, where lower social groups expressed lower satisfaction more often than other groups).

<Table 2 The results of a structural difference regression between impact indicators and overall satisfaction>

### The concerns and preferences of various social groups

Key components of overall satisfaction vary, depending on the context and the patients. In order to identify the key components we need to find out what patients' real concerns and



preferences are and how to distribute health resources to meet the demands of various groups.

There are four criteria for measuring health service quality: service attitude, technical quality, price, and the facilities and environment. There are five core concerns of patients when they interact with their providers: overall competence of the delivery organization, quality, doctor competence, service, and price.

<Table 3 Descriptive statistics of general preferences and core concerns>

To perform an ordered probit model analysis, we employ education, income, occupation, employment, registered residence category, and time of residence as independent variables; employ the general preference dummy and core concern dummy as dependent variables; control the age dummy and medical expense and reimbursement instrumental variable (simply denoted as IV hereafter) for general preference of quality; and control the age dummy, medical expense and reimbursement instrumental variable, severity of disease dummy variable, stage of disease dummy variable, and age dummy variable for core concerns.

We find that groups with higher social position are more concerned with quality than with price. Sometimes they move to top level hospital to get the service they require, even when their disease is not serious, and then have few choices once they get there. Worried by the lack of advanced and reliable health services in the basic delivery system, and their potential for being given (and charged for) treatments or services they do not actually need at the more top level providers, they are dissatisfied with their interactions with their providers. At the same time, less affluent social groups were more concerned with price than with quality, and we can conclude that their financial restraints also limited their freedom to fully access the health delivery system.

<Table 4 The results of regression between SES and general preference/core concern of patients>

*The preferences, concerns, and satisfaction levels of various social groups*

To do regression analysis with instrumental variable, we employ the SES indicator<sup>14</sup> and construct the instrumental variable SES indicator \* general preference dummy or SES indicator \* core concern dummy as independent variables; employ overall satisfaction with the hospital as the dependent variable; control the age dummy and medical expense and reimbursement instrumental variable (last year) for general preference; and control the age dummy, medical expense and reimbursement instrumental variable, severity of disease dummy, and stage of disease dummy for core concerns to do regression analysis with IV.

Relative to a benchmark of all SES indicators, patients who rate price as their most important concern are less satisfied overall with the hospital than other patients, while patients who are concerned with overall organization competence are more satisfied with hospital generally.

<Table 5 The results of regression between SES and general satisfaction >

To further study the relationships among dimensions of satisfaction<sup>15</sup>, concerns, preferences, and overall satisfaction, we do regression analysis with instrumental variable, employ all dimensions of satisfaction and constructing the instrumental variable dimension of satisfaction \* core concern dummy or dimension of satisfaction \* general preference dummy

as independent variables; control the rehabilitation level dummy, medical expense and reimbursement instrumental variable, and complaints of adverse events variable.

We find that patients who are most concerned with the total competence of the delivery organization, relative to a benchmark of satisfaction with the waiting time, are more satisfied overall than average level of all patients. Likewise, patients who are most concerned with quality, relative to a benchmark of satisfaction with respect to their interaction with provider or the waiting time, are more satisfied overall than average level of all patients, but relative to a benchmark with respect to their satisfaction with the facilities and environment, these patients' overall satisfaction is lower than average level of all patients. So for patients who are concerned with the total technical competence and technical quality of the delivery organization, the waiting time and perceived quality of the interaction with provider will contribute more to overall satisfaction than for other patients. We deduce that for them, the high quality of the interaction with the physician and more attention from health service provider make them more satisfied.

We also find that for the group in which patients most value technical quality, almost all dimensions of satisfaction except satisfaction with the convenience of bill **checking** contribute less to overall satisfaction than other dimensions of satisfaction. For patients who most value price, satisfaction with the waiting time and with the convenience of bill checking contributes less to overall satisfaction than other dimensions of satisfaction, while for patients who most value the facilities and environment, satisfaction with the waiting time and with the facilities and environment contributes more to overall satisfaction than other dimensions of satisfaction.

<Table 6 The results of structural difference regression among satisfaction, quality criteria, and overall satisfaction >

#### **How the institutional environment impacts satisfaction among the six groups**

How patients perceive the role of their provider is the key for how they interact with their provider, both at the organizational level and at the individual physician level. So we employ the *Yi yao yang yi* belief<sup>16</sup> (Eggleston *et al.* 2010; see the statistical description of *Yi yao yang yi* in table 7<sup>17</sup>), which represents what some patients think is the most important reason for higher drug costs in hospitals, to show the perceived basic role of providers and the relationship between patients and health delivery organizations. We design the following regression model: We employ the general preference dummy and construct the instrumental variable *Yi yao yang yi* belief dummy \* general preference dummy as independent variables; employ overall satisfaction and all dimensions of satisfaction as dependent variables; and control the severity of disease dummy variable and stage of disease dummy variable to do regression analysis with IV.

<Table 7 Descriptive statistics of the *Yi yao yang yi* belief>

We find that among patients who most value service attitude, technical quality, or price, those who subscribe to *Yi yao yang yi* have relatively lower overall satisfaction with the hospital and lower levels of almost all the dimensions of satisfaction (except for waiting time) than patients who don't agree with the phrase *Yi yao yang yi* in this group; while for patients who most value the facilities and environment, those who subscribe to *Yi yao yang yi* have lower overall satisfaction with the hospital and lower levels of only two of the dimensions of

satisfaction (clarity of explanation in interaction, and facilities and environment) than patients in this group who don't believe in *Yi yao yang yi*. Taking the *Yi yao yang yi* belief for granted would therefore decrease patients' overall satisfaction as well as most of their subfield satisfaction no matter what their preferences.

<Table 8 The results of regression among the *Yi yao yang yi* belief, general preferences, and satisfaction >

## Conclusion

When we focus on the institutional environment and its impact on patient satisfaction with the health care delivery system, we get the following major findings:

- The respondents with higher education, higher income, and a longer time of urban residence are always less satisfied with their providers than others.
- The higher social groups are more concerned with the quality of the health care they receive, while lower social groups are more concerned with price.
- Patients who are more concerned with price are less satisfied with the health care they receive than other patients.
- At the same time, for patients who are concerned with the total competence of the providers, nor the price of the providers, dissatisfaction with the waiting time and the quality of interaction with their physicians is the main reason for low overall satisfaction.
- Patients who hold the belief *Yi yao yang yi* showed lower satisfaction than patients who do not hold this belief.

So, based on these findings, we could argue that the gap between what patients predict their service will entail (Zeithaml *et al.* 1993) and what they perceive the service actually did entail is the key determinant of lower patient satisfaction, especially for patients who care most about the quality of service and those with higher social position. These patterns mean that the patients who are most concerned with the technical competence of the health service delivery system and the qualification of the medical professionals are more likely to select top-level hospitals and to compete anxiously for the time and attention of senior and qualified physicians. These kinds of patients reported lower overall satisfaction, lower satisfaction with the interaction quality, and lower satisfaction with the waiting time due to their lack of trust in the technical competence and quality of the primary delivery system and their worries about physicians providing unnecessary services. Most patients suffered because they experienced less freedom to reflex to the health delivery system and social life. Patients from lower social groups are more concerned with price and the attitude of medical professionals and have lower expectations for quality than the patients with higher social position. These patients expressed higher satisfaction with their health care experiences than their wealthier peers, not because they received better service but because their expectations were lower (Zeithaml *et al.* 1993), based on experiences in their social life (Yang and Hu 2008). At the same time, although patients with higher social position more often opted to buy advanced health services than poorer patients did, they also struggled with what they perceived as a lack of freedom to purchase and receive their desired service (Zeithaml *et al.* 1993) which would be more reliable, more convenient, without long waiting time, and include respect and attention from their provider. Those who competed for these

kinds of scarce health resources felt that while their expectations for quality had largely been met, they had to wait longer and expend more effort than average patients to get very limited services from the exhausted physicians of overloaded providers. In other words, they felt that getting the desired and predicted service was very difficult and relatively expensive if they took the informal payment<sup>18</sup>, invested social capital, and waiting time into account. Patients who fought for the higher-level services also grappled with the anxiety of being the victim of *Yi yao yang yi*. To some degree, the higher social groups faced unavoidably less freedom to reflex to the health delivery system. To increase the effectiveness of the delivery system and improve the level of satisfaction of patients across the social spectrum, we should consider long-term solutions to the structural problems embedded in the delivery system and social structure. First, we should strengthen public investment in basic medical services and health benefits for the lower social groups, keeping prices low while increasing the system's reliability and convenience. At the same time, we should encourage patients of all social groups to visit their providers before their diseases are serious; this can be accomplished by introducing family physicians and community clinics into the primary delivery system. If these practitioners were allowed to offer more reliable and advanced services to wealthier patients at slightly higher prices than hospitals, some of them would be motivated to practice in these new settings.

Second, we should acknowledge the imbalances and distorted characteristics of the health services market in China. Because of the lack of incentive to supply necessary and reliable advanced services (Yip and Eggleston 2004) and the lack of a fair evaluation of services that are less dependent on expensive drugs and other technologies than they are on the experience and effort of senior physicians, there is a serious shortage of these types of services in the delivery system. This situation causes anxiety among the higher social groups, where demand for these kinds of services is increasing. So we need to introduce the appropriate market mechanism to encourage diversified and mixed ownership providers to supply ample and accessible services at an advanced level to fulfill this type of need.

Finally, as a transitional solution, we should build a level of integrated health delivery providers between the high-level hospitals and the more rudimentary ones, such as the CHC and level 1 hospitals, to bolster basic delivery providers' technical competence while decreasing the workload of high-level providers. Patient dissatisfaction with providers, as expressed by *Kan bing gui*, *kan bing nan*, could be explained with empirical studies and other data, but it is a daunting challenge to devise some feasible solution to the problems of the transitional Chinese urban health service delivery system. In fact, the practices adopted after the 2008 Chinese health system reforms—best practices from government, providers, third parties, and so on—are expected to mitigate structural problems and lead to better outcomes and higher satisfaction among patients and other stakeholders. In the future, patient satisfaction should be studied in combination with the assessment and evaluation of the 2008 reforms and related best practices. Such research would be a welcome contribution to the study of health delivery systems in the developing world, where many countries are facing similar challenges.

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## Endnotes

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<sup>1</sup> Their classification standards are as follows: *low education* refers to senior high school or below, *high education* refers to college or above; *low income* refers to income before the three-eighths [0,7420), *high income* refers to income after the five-eighth [11700, infinity); *managers of government-related organizations* refers to managers in government and government-related enterprises in occupation and employees of state-owned enterprises in employment; *employees of nonstate economic types, urban self-employed, and private entrepreneurs* refer to employees of various non-state-owned enterprises or urban self-employed and private entrepreneurs in employment.

<sup>2</sup> The *education-income subgroup* contains low-education and low-income groups, high-education and high-income groups, low-education and high-income groups, and high-education and low-income groups. The *occupation-employment subgroup* contains managers of government-related organizations, employees of various non-state-owned enterprises, the urban self-employed, and private entrepreneurs.

<sup>3</sup> To rate overall satisfaction, we give *completely unsatisfied* the value 1, *relatively unsatisfied* the value 2, *basically satisfied* the value 3, *relatively satisfied* the value 4, and *completely satisfied* the value 5.

<sup>4</sup> In order to standardize costs, we adapt quartile assignments for all of them (the higher the cost, the higher the value).

<sup>5</sup> Quintile assignment: the better the rehabilitation level, the higher the value.

<sup>6</sup> Six-bit assignment: the higher the reimbursement level, the higher the value.

<sup>7</sup> Quartile assignment: the higher the medical costs, the higher the value.

<sup>8</sup> Seven-bit assignment: the higher education level, the higher the value.

<sup>9</sup> Eight-bit assignment: the higher the income, the higher the value.

<sup>10</sup> For a big city the value is 3, for a small city the value is 2, and for the country the value is 1.

<sup>11</sup> Quartile assignment: the longer the time of residence, the higher the value.

<sup>12</sup> Quartile assignment: the older the patient, the higher the value.

<sup>13</sup> There are some trade-offs for control variables depend on the independent variable.

<sup>14</sup> The SES indicator includes education, income, registered residence category, and time of residence.

<sup>15</sup> We refer to five kinds of dimensions including satisfaction with respect in interaction with provider, satisfaction with clarity of explanation in interaction with provider, satisfaction with the waiting time, satisfaction with facilities and environment, satisfaction with the convenience of bill payment, for all of them, we give completely unsatisfied value 1, relatively unsatisfied value 2, basically satisfied value 3, relatively satisfied value 4 and completely satisfied value 5.

<sup>16</sup> *Yi yao yang yi* belief refers to the perception of the role and goal setting of a public hospital. In China the central government has imposed price control regulation policy for the professional health service and lack of necessary financial investment, which has permitted providers to charge patients to acquire compensation for the medical services they render and complement

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their regular income with the income from drugs, medical supplements, and medical examinations. The term *Yi yao yang yi* literally means that public hospitals have a strong profit motive to overprescribe drugs and perform too many medical examinations. Eggleston *et al.* (2010) and Eggleston (2008) provide detailed information about this policy and its impact. The *Yi yao yang yi* belief refer to the degree whether the respondents believed or not in that the hospital had got some compensation with make-up was the most important reason to cause the higher drug costs in public hospitals. For the *Yi yao yang yi* belief dummy, we give a choice of high drug price (because of the hospital's pursuit of economic interests) the value 1 (the group is 44.48 percent of the whole sample), and other choices the value 0.

<sup>17</sup> We find that the percentage of low-education and low-income groups with the *Yi yao yang yi* belief is the highest, while the percentage of managers in the government-related organizations group with this belief is the lowest.

<sup>18</sup> Including non-medical expenditure and red packet expenditure (the monetary gift which is given to doctor as the bribe).

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## Appendix

### The structural difference model

Following the notation in Wooldridge (1995) and Greene (2000), structural difference analysis is used to verify the equality or inequality of coefficients in separate subsamples. Data were examined prior to modeling to ensure that they met assumptions for the technique. A full set of descriptive statistics is available in the table 1. Then the form of our general structural difference model is as follows:

$$Y = X\beta + \varepsilon = \beta_0 + \begin{pmatrix} X_1 \\ \dots \\ X_n \end{pmatrix} \beta + \varepsilon \quad (1)$$

Here  $X_i$  can be sub-vector (for one sample) or sub-matrix (for subgroup of sample). We want to test whether there is structural difference among  $\beta$  for different  $X_i$ . We introduce structural difference coefficients  $\beta_i$  for  $X_i$ . Then the above model can be rewritten as

$$\begin{aligned} Y &= X\beta + \varepsilon = \beta_0 + \begin{pmatrix} X_1 * (\beta_{benchmark} + \beta_1) \\ \dots \\ X_n * (\beta_{benchmark} + \beta_n) \end{pmatrix} + \varepsilon \\ &= \beta_0 + \begin{pmatrix} X_1 \\ \dots \\ X_n \end{pmatrix} \beta_{benchmark} + \sum_{i=1}^n \begin{pmatrix} 0 \\ X_i \\ 0 \end{pmatrix} \beta_i + \varepsilon \end{aligned} \quad (2)$$

So we only have to test whether  $\beta_i, i = 1, 2, \dots, n$  are significant or not, if significant, whether positive or negative. If  $\beta_i$  is significantly positive, there is significant positive structural

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difference of  $\beta_i$  for  $X_i$  relative to  $\beta_{benchmark}$  for whole sample;  $\beta_i$  is significantly negative, there is significant negative structural difference of  $\beta_i$  for  $X_i$  relative to  $\beta_{benchmark}$  for whole sample; if  $\beta_i$  is insignificant, there is no structural difference of  $\beta_i$  for  $X_i$  relative to  $\beta_{benchmark}$  for whole sample.

Models of different correlations between choice of medical institution, reimbursement (this time), and medical costs (this time); and severity of disease, reimbursement (last year), and age were estimated using Stata, version 11.0. We employed the t-test to study the significance of structural difference coefficient  $\beta_i$ .

### The ordered probit model

Ordered probit is a generalization of the popular probit analysis to the case of more than two outcomes of an ordinal dependent variable. Since the latent evaluation score  $y_{it}$  is a linear function of our independent variables written as a vector  $x_{it}$ , and  $y_{it} = x_{it} * b + \varepsilon_{it}$ , where  $b$  is a vector of coefficients and  $\varepsilon_{it}$  is assumed to follow a standard normal distribution. Employ ordered probit model with one cutoff points as an example: define  $p$  as the cutoff points of all  $y_{it}$ , we have discrete effect for  $y_{it} \leq p$  and  $y_{it} > p$ . Following the notation in Wooldridge (2002), the ordered probit model is expressed as

$$\Pr ob(y_{it} = 0 | x_{it}) = \Phi(p - x_{it} * b) \quad (3)$$

$$\Pr ob(y_{it} = 1 | x_{it}) = 1 - \Phi(p - x_{it} * b) \quad (4)$$

where  $\Phi$  is the cumulative standard normal distribution function.

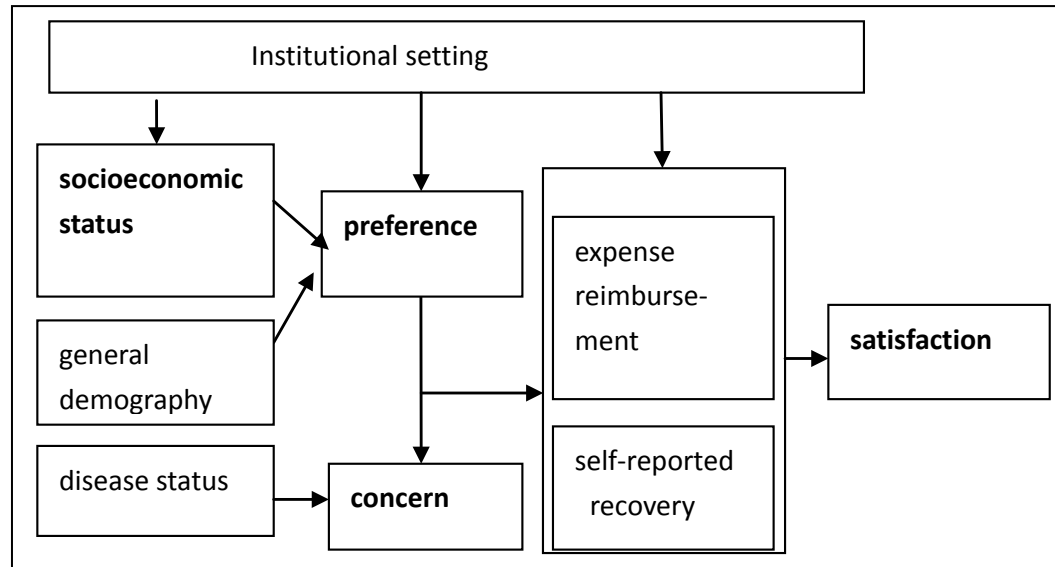
The marginal effect of  $x_{it}$  on the probability of binary can be calculated according to the following formula following Wooldridge (2002, p. 506):

$$\partial \Pr ob(y_{it} = 0 | x_{it}) / \partial x_{it} = -b * \Phi(p - x_{it} * b) \quad (5)$$

$$\partial \Pr ob(y_{it} = 1 | x_{it}) / \partial x_{it} = b * \Phi(p - x_{it} * b) \quad (6)$$

where  $\Phi$  is the standard normal density function, and based on (5) and (6) we can estimate the vector of coefficients  $b$ .

**Figure 1: The framework to understand the influencing factors of patient satisfaction and its changes**



**Table: Descriptive statistics of overall satisfaction and social groups**

		Overall satisfaction with the hospital										Different social group											
		Completely satisfied		Relatively satisfied		Basically satisfied		Unsatisfied		Total		Low income-low education		High income-high education		High income-low education		Low income-high education		Managers of government-related organizations		Employees of non-state economic types, urban self-employed and private entrepreneurs	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Education	Primary School or below	29	8.45%	226	65.89%	59	17.20%	29	8.45%	343	100.00%	319	20.29%	0	0.00%	46	6.03%	0	0.00%	3	0.60%	83	6.07%
	Junior high school	52	5.67%	614	66.96%	170	18.54%	81	8.83%	917	100.00%	697	44.34%	0	0.00%	314	41.15%	0	0.00%	39	7.82%	430	31.43%
	Senior high school	49	5.46%	617	68.78%	148	16.50%	83	9.26%	897	100.00%	556	35.37%	0	0.00%	403	52.82%	0	0.00%	51	10.22%	470	34.36%
	Secondary	19	5.26%	253	70.08%	47	13.02%	42	11.63%	361	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	59	11.82%	119	8.70%
	College	26	4.32%	410	68.11%	87	14.45%	79	13.13%	602	100.00%	0	0.00%	494	54.05%	0	0.00%	133	74.30%	166	33.27%	192	14.04%
	University	15	4.19%	243	67.88%	50	13.97%	50	13.97%	358	100.00%	0	0.00%	386	42.23%	0	0.00%	46	25.70%	166	33.27%	71	5.19%
	Master and above	1	3.45%	23	79.31%	2	6.90%	3	10.34%	29	100.00%	0	0.00%	34	3.72%	0	0.00%	0	0.00%	15	3.01%	3	0.22%
Income	[0,3390)	22	5.46%	264	65.51%	80	19.85%	37	9.18%	403	100.00%	536	34.10%	0	0.00%	0	0.00%	53	29.61%	6	1.20%	92	6.73%
	[3390,5410)	25	5.84%	299	69.86%	57	13.32%	47	10.99%	428	100.00%	522	33.21%	0	0.00%	0	0.00%	61	34.08%	13	2.61%	187	13.67%
	[5410,7420)	24	5.67%	300	70.92%	67	15.84%	32	7.57%	423	100.00%	514	32.70%	0	0.00%	0	0.00%	65	36.31%	20	4.01%	199	14.55%
	[7420,9374)	24	5.29%	315	69.38%	73	16.08%	42	9.25%	454	100.00%	0	0.00%	0	0.00%	0	0.00%	44	8.82%	163	11.92%		
	[9374,11700)	25	5.69%	311	70.84%	61	13.90%	42	9.57%	439	100.00%	0	0.00%	0	0.00%	0	0.00%	69	13.83%	186	13.60%		
	[11700,15180)	18	3.98%	304	67.26%	79	17.48%	51	11.28%	452	100.00%	0	0.00%	244	26.70%	306	40.10%	0	0.00%	94	18.84%	168	12.28%
	[15180,21860)	29	6.59%	285	64.77%	68	15.45%	58	13.19%	440	100.00%	0	0.00%	305	33.37%	250	32.77%	0	0.00%	119	23.85%	171	12.50%
[21860-)	24	5.13%	308	65.81%	78	16.67%	58	12.39%	468	100.00%	0	0.00%	365	39.93%	207	27.13%	0	0.00%	134	26.85%	202	14.77%	
Job occupation	Professional and technical personnel	5	5.05%	62	62.63%	22	22.22%	10	0.101010101	99	100.00%	2	0.28%	80	9.95%	22	3.58%	3	2.56%	0	0.00%	16	1.17%
	Managers in government and government related enterprises	26	5.19%	348	69.46%	67	13.37%	60	0.119760479	501	100.00%	35	4.96%	345	42.91%	85	13.84%	27	23.08%	499	100.00%	182	13.30%
	The clerk and manager	34	4.61%	498	67.57%	104	14.11%	101	0.137042062	737	100.00%	148	20.96%	313	38.93%	190	30.94%	53	45.30%	0	0.00%	330	24.12%
	Commercial Staff	27	6.18%	283	64.76%	80	18.31%	47	0.107551487	437	100.00%	296	41.93%	24	2.99%	144	23.45%	23	19.66%	0	0.00%	498	36.40%
	Service staff	1	8.33%	8	66.67%	3	25.00%	0	0	12	100.00%	7	0.99%	0	0.00%	1	0.16%	1	0.85%	0	0.00%	7	0.51%
	Farmers, animal husbandry and fishery workers	18	5.13%	247	70.37%	56	15.95%	30	0.085470085	351	100.00%	144	20.40%	28	3.48%	142	23.13%	5	4.27%	0	0.00%	255	18.64%
	Production workers, transport workers and associated personnel	0	0.00%	2	66.67%	1	33.33%	0	0	3	100.00%	0	0.00%	3	0.37%	1	0.16%	0	0.00%	0	0.00%	0	0.00%
Other workers	4	3.08%	93	71.54%	21	16.15%	12	0.092307693	130	100.00%	74	10.48%	11	1.37%	29	4.72%	5	4.27%	0	0.00%	80	5.85%	
Employment	Employees of state-owned enterprises	54	4.77%	791	69.88%	149	13.16%	138	0.121908127	1132	100.00%	168	11.55%	595	66.33%	260	34.62%	62	36.69%	499	100.00%	0	0.00%

	Employees of various non-state-owned enterprises	40	5.88%	440	64.71%	126	18.53%	74	0.108823529	680	100.00%	297	20.43%	158	17.61%	200	26.63%	34	20.12%	0	0.00%	1021	74.63%
	Urban self-employed and private entrepreneurs	8	3.45%	154	66.38%	47	20.26%	23	0.099137931	232	100.00%	110	7.57%	20	2.23%	105	13.98%	10	5.92%	0	0.00%	347	25.37%
	Homeworkers	57	6.32%	628	69.62%	143	15.85%	74	0.082039912	902	100.00%	458	31.50%	109	12.15%	141	18.77%	25	14.79%	0	0.00%	0	0.00%
	Unemployed, to be distributed or other non-employed	6	8.22%	42	57.53%	16	21.92%	9	0.123287671	73	100.00%	99	6.81%	0	0.00%	1	0.13%	1	0.59%	0	0.00%	0	0.00%
	Students	4	2.82%	97	68.31%	28	19.72%	13	0.091549296	142	100.00%	160	11.00%	0	0.00%	5	0.67%	27	15.98%	0	0.00%	0	0.00%
	Recruitment of retired or retired personnel	9	10.84%	51	61.45%	14	16.87%	9	0.108433735	83	100.00%	16	1.10%	14	1.56%	37	4.93%	4	2.37%	0	0.00%	0	0.00%
	Incapacitated	9	7.69%	77	65.81%	20	17.09%	11	0.094017094	117	100.00%	146	10.04%	1	0.11%	2	0.27%	6	3.55%	0	0.00%	0	0.00%
Registered residence Category	Big city	149	5.56%	1811	67.60%	429	16.01%	290	10.83%	2679	100.00%	1158	73.66%	722	78.99%	620	81.26%	142	79.33%	344	68.94%	1038	75.88%
	Small city	18	4.43%	269	66.26%	76	18.72%	43	10.59%	406	100.00%	199	12.66%	108	11.82%	79	10.35%	17	9.50%	73	14.63%	156	11.40%
	County	24	5.69%	306	72.51%	58	13.74%	34	8.06%	422	100.00%	215	13.68%	84	9.19%	64	8.39%	20	11.17%	82	16.43%	174	12.72%
Start time of residence	[1920,1958)	44	5.00%	582	66.14%	144	16.36%	110	12.50%	880	100.00%	327	20.80%	305	33.37%	191	25.03%	65	36.31%	164	32.87%	460	33.63%
	[1958,1970)	48	4.91%	676	69.12%	151	15.44%	103	10.53%	978	100.00%	348	22.14%	326	35.67%	196	25.69%	50	27.93%	167	33.47%	375	27.41%
	[1970,1989.5)	43	5.11%	573	68.13%	140	16.65%	85	10.11%	841	100.00%	433	27.54%	166	18.16%	209	27.39%	40	22.35%	119	23.85%	398	29.09%
	[1989.5-	56	6.93%	555	68.69%	128	15.84%	69	8.54%	808	100.00%	464	29.52%	117	12.80%	167	21.89%	24	13.41%	49	9.82%	135	9.87%
Age	[18,30)	36	3.93%	604	66.01%	153	16.72%	122	13.33%	915	100.00%	259	16.48%	385	42.12%	143	18.74%	79	44.13%	188	37.68%	512	37.43%
	[31,45)	40	4.66%	573	66.78%	148	17.25%	97	11.30%	858	100.00%	368	23.41%	259	28.34%	221	28.96%	42	23.46%	170	34.07%	506	36.99%
	[46,55)	47	5.70%	582	70.63%	123	14.93%	72	8.74%	824	100.00%	486	30.92%	144	15.75%	223	29.23%	29	16.20%	111	22.24%	291	21.27%
	[56-	68	7.47%	627	68.90%	139	15.27%	76	8.35%	910	100.00%	459	29.20%	126	13.79%	176	23.07%	29	16.20%	30	6.01%	59	4.31%
Severity of disease	Not serious	52	5.19%	705	70.43%	157	15.68%	87	8.69%	1001	100.00%	646	41.15%	317	34.80%	326	42.73%	62	34.64%	192	38.48%	606	44.33%
	General	79	4.38%	1238	68.59%	316	17.51%	172	9.53%	1805	100.00%	635	40.45%	464	50.93%	336	44.04%	85	47.49%	246	49.30%	569	41.62%
	Serious	54	9.94%	358	65.93%	56	10.31%	75	13.82%	543	100.00%	199	12.68%	90	9.88%	72	9.44%	24	13.41%	45	9.02%	121	8.85%
	Unknown	6	3.80%	85	53.80%	34	21.52%	33	20.89%	158	100.00%	90	5.73%	40	4.39%	29	3.80%	8	4.47%	16	3.21%	71	5.19%
Stage of the disease	Emergency with serious condition	42	7.64%	373	67.82%	63	11.45%	72	13.09%	550	100.00%	176	16.97%	94	14.26%	69	12.90%	28	22.95%	56	15.73%	137	15.04%
	Non-emergency with initial stage disease	100	4.81%	1421	68.35%	364	17.51%	194	9.33%	2079	100.00%	596	57.47%	403	61.15%	344	64.30%	64	52.46%	224	62.92%	579	63.56%
	Non-emergency with medium stage disease	27	5.07%	356	66.79%	79	14.82%	71	13.32%	533	100.00%	171	16.49%	105	15.93%	73	13.64%	16	13.11%	48	13.48%	115	12.62%
	Non-emergency with late stage but stable disease	21	6.16%	236	69.21%	55	16.13%	29	8.50%	341	100.00%	94	9.06%	57	8.65%	49	9.16%	14	11.48%	28	7.87%	80	8.78%

**Table: The results of structural difference regression between impact indicators and overall satisfaction**

	(1)	(2)		(3)	(4)		(5)	(6)		(7)	(8)		(9)	(10)		(11)	(12)		(13)	(14)
	Overall satisfaction with the hospital			Overall satisfaction with the hospital			Overall satisfaction with the hospital			Overall satisfaction with the hospital			Overall satisfaction with the hospital			Overall satisfaction with the hospital			Overall satisfaction with the hospital	
Total expenditure	0.00202	<0.001	Medical expenditure	0.00122	<0.00000	Non-medical expenditure	-0.0220*	<0.025**	Bed-patient expenditure	0.187***	<0.000**	Rehabilitation level	0.220***	<0.000**	Rehabilitation	0.0201***	<0.022**	Managers in government and government related enterprises	0.089*	0.030*
(benchmark)	-0.02	(-0.00)	(benchmark)	-0.08	(-0.00)	(benchmark)	(-1.70)	(-2.50)	(benchmark)	2.80	(0.00)	(benchmark)	0.70	(0.40)	(benchmark)	0.02	(2.50)	Structural difference relative to the benchmark of job acceptance and employment	1.60	(0.70)
Total expenditure	0.0111		Medical expenditure	0.0070		Non-medical expenditure	0.0004		Bed-patient expenditure	0.190		Rehabilitation level	0.0201		Rehabilitation	0.00008		Employees of non-state economic types, urban self-employed and private enterprises	0.0201	<0.001
Structural difference of low education and low income group	-0.93		Structural difference of low education and low income group	0.81		Structural difference of low education and low income group	-0.82		Structural difference of low education and low income group	0.05		Structural difference of low education and low income group	0.33		Structural difference of low education and low income group	0.001		Structural difference relative to the benchmark of job acceptance and employment	0.40	(-0.40)
Total expenditure	-0.0207**		Medical expenditure	-0.0205**		Non-medical expenditure	-0.0205**		Bed-patient expenditure	0.0083**		Rehabilitation level	-0.0018*		Rehabilitation	0.0019		Administrative and technical personnel	0.070*	
Structural difference of high education and high income group	(-1.10)		Structural difference of high education and high income group	(-2.00)		Structural difference of high education and high income group	(-1.40)		Structural difference of high education and high income group	2.00		Structural difference of high education and high income group	(-1.70)		Structural difference of high education and high income group	(-1.70)		(benchmark)	0.090	
Total expenditure	-0.0109		Medical expenditure	-0.0103		Non-medical expenditure	-0.0093		Bed-patient expenditure	0.0155		Rehabilitation level	0.0104		Rehabilitation	0.0104*		Managers in government and government related enterprises	0.100	
Structural difference of low education and high income group	(-0.70)		Structural difference of low education and high income group	(-0.70)		Structural difference of low education and high income group	(-1.20)		Structural difference of low education and high income group	(-1.70)		Structural difference of low education and high income group	(-1.20)		Structural difference of low education and high income group	(-1.70)		(benchmark)	0.100	
Total expenditure	-0.0003		Medical expenditure	-0.0004		Non-medical expenditure	-0.0096		Bed-patient expenditure	0.0077		Rehabilitation level	0.0047		Rehabilitation	0.0077		The clerk and manager	0.0007*	
Structural difference of high education and low income group	(-1.57)		Structural difference of high education and low income group	(-1.42)		Structural difference of high education and low income group	(-1.51)		Structural difference of high education and low income group	0.70		Structural difference of high education and low income group	0.090		Structural difference of high education and low income group	(-0.50)		(benchmark)	0.100	
Total expenditure	-0.0002		Medical expenditure	-0.0002		Non-medical expenditure	0.0007		Bed-patient expenditure	0.0070		Rehabilitation level	-0.0002		Rehabilitation	-0.0007		Commercial staff	0.0002	
Structural difference of managers in government and government related enterprises group	(-0.02)		Structural difference of managers in government and government related enterprises group	(-0.01)		Structural difference of managers in government and government related enterprises group	-0.27		Structural difference of managers in government and government related enterprises group	0.00		Structural difference of managers in government and government related enterprises group	(-0.10)		Structural difference of managers in government and government related enterprises group	(-0.10)		(benchmark)	0.0002	
Total expenditure	-0.0217*		Medical expenditure	-0.0217*		Non-medical expenditure	-0.0088		Bed-patient expenditure	-0.005		Rehabilitation level	-0.0077		Rehabilitation	-0.0110		Police staff	0.020	
Structural difference of employees of non-state economic types, urban self-employed and private enterprises group	(-1.00)		Structural difference of employees of non-state economic types, urban self-employed and private enterprises group	(-1.00)		Structural difference of employees of non-state economic types, urban self-employed and private enterprises group	(-0.74)		Structural difference of employees of non-state economic types, urban self-employed and private enterprises group	(-0.90)		Structural difference of employees of non-state economic types, urban self-employed and private enterprises group	(-1.20)		Structural difference of employees of non-state economic types, urban self-employed and private enterprises group	(-1.47)		(benchmark)	0.0002	
Intensity of disease density variable	Yes	Yes	Intensity of disease density variable	Yes	Yes	Intensity of disease density variable	Yes	Yes	Intensity of disease density variable	Yes	Yes	Completeness of laborer events control variable	Yes	Yes	Completeness of laborer events control variable	Yes	Yes	Teachers, school bus drivers and fishery workers	0.020	
Stage of disease density variable	Yes	Yes	Stage of disease density variable	Yes	Yes	Stage of disease density variable	Yes	Yes	Stage of disease density variable	Yes	Yes	Intensity of disease density variable	Yes	Yes	Intensity of disease density variable	Yes	Yes	(benchmark)	0.0002	
												Stage of disease density variable	Yes	Yes	Stage of disease density variable	Yes	Yes	Production workers, transport workers and associated personnel	0.020	
												Rehabilitation and medical care (this time) control variable	Yes	Yes	Rehabilitation level density variable	Yes	Yes	(benchmark)	0.020	
Year	3.207***	3.401***	Year	3.722***	3.733***	Year	3.403***	3.464***	Year	3.021***	3.028***	Year	3.711***	3.708***	Year	3.700***	Year	Other workers	0.000	
	-0.262	(-0.27)		-0.262	(-0.26)		-0.16	(-0.20)		0.027	(0.02)		0.000	(0.00)		0.000	(0.00)	Employees of state-owned enterprises	-0.000	
N	3478	3478	N	3482	3482	N	3485	3485	N	3500	3500	N	3478	3478	N	3478	3478	(benchmark)	0.000	(-0.00)
40-50 age	0.009	0.007	40-50 age	0.008	0.007	40-50 age	0.00	0.008	40-50 age	0.001	0.00	40-50 age	0.001	0.002	40-50 age	0.000	0.002	Employees of various non-state owned enterprises	0.002	
Medical costs	0.0007	0.0000	Education	0.0005		Registered residence Category	0.0003	0.0003	Time of residence	0.0003	0.0003	Age	0.0007	0.0000**	(benchmark)	0.0000**	0.0000**	(benchmark)	0.000	(0.00)

Benchmark	0.47	(0.24)	Benchmark	1.41	Benchmark	0.26	Benchmark	0.89	(0.51)	Benchmark	1.23	(2.02)	Benchmark	3.66	(1.20)	Other self-employed and private entrepreneurs	0	
Medical costs	0.010		Low education, low income group	0.000584	Low education, low income group	0.023	Registered incidence Category	0.036	Time of incidence	0.0703	Age	0.0676	Time benchmark	0.007		Time benchmark	1.1	
Structural difference of low education and low income group	0.010		Structural difference relative to the benchmark, of education	0.000	Structural difference relative to the benchmark, of education	(1.31)	Structural difference of low education and low income group	0.80	Structural difference of low education and low income group	0.071	Structural difference of low education and low income group	0.000	Structural difference of low education and low income group	0.000		Houseworkers	0.0641	
Medical costs	0.020**		High education, high income group	0.0016	High education, high income group	0.0075	Registered incidence Category	0.0750*	Time of incidence	0.0204	Age	0.0110	Time benchmark	0.010		Time benchmark	0.045	
Structural difference of high education and high income group	(2.07)		Structural difference relative to the benchmark, of education	(0.56)	Structural difference relative to the benchmark, of education	(1.13)	Structural difference of high education and high income group	(7.76)	Structural difference of high education and high income group	(1.02)	Structural difference of high education and high income group	(1.71)	Structural difference of high education and high income group	(1.71)		Unemployed, to be discharged or other non-employed	(0.0249)	
Medical costs	0.0088		Low education, high income group	0.024	Low education, high income group	0.0007	Registered incidence Category	0.052	Time of incidence	0.0219	Age	0.00624	Time benchmark			Time benchmark	(0.25)	
Structural difference of low education and high income group	(0.41)		Structural difference relative to the benchmark, of education	(1.57)	Structural difference relative to the benchmark, of education	(0.86)	Structural difference of low education and high income group	2.26	Structural difference of low education and high income group	(1.06)	Structural difference of low education and high income group	(1.05)	Structural difference of low education and high income group	(1.05)		Teachers	(0.0049)	
Medical costs	0.0007		High education, low income group	0.0041	High education, low income group	0.021	Registered incidence Category	0.140*	Time of incidence	0.022	Age	0.0011	Time benchmark			Time benchmark	(0.06)	
Structural difference of high education and low income group	(11.21)		Structural difference relative to the benchmark, of education	(0.41)	Structural difference relative to the benchmark, of education	(0.45)	Structural difference of high education and low income group	1.71	Structural difference of high education and low income group	(0.90)	Structural difference of high education and low income group	(0.04)	Structural difference of high education and low income group	(0.04)		Recipients of retired or retired pension	0.017	
Medical costs	(0.0001)					Registered incidence Category	(0.000)	Time of incidence	0.0049	Age	0.00072	Time benchmark			Time benchmark	0.30		
Structural difference of managers in government and government related enterprise group	(0.05)					Structural difference of managers in government and government related enterprise group	(0.21)	Structural difference of managers in government and government related enterprise group	(1.05)	Structural difference of managers in government and government related enterprise group	(1.05)	Structural difference of managers in government and government related enterprise group	(1.05)		Inspectors	0.012		
Medical costs	(0.0006**)					Registered incidence Category	(0.018)	Time of incidence	(0.0006)	Age	(0.00008)	Time benchmark			Time benchmark	0.55		
Structural difference of employees of non-state economic types, urban self-employed and private entrepreneurs group	(2.29)					Structural difference of employees of non-state economic types, urban self-employed and private entrepreneurs group	(0.00)	Structural difference of employees of non-state economic types, urban self-employed and private entrepreneurs group	(0.00)	Structural difference of employees of non-state economic types, urban self-employed and private entrepreneurs group	(0.00)	Structural difference of employees of non-state economic types, urban self-employed and private entrepreneurs group	(0.00)					
Completion of adverse events control variable	Yes	Yes	Completion of adverse events control variable	Yes	Completion of adverse events control variable	Yes	Completion of adverse events control variable	Yes	Yes	Completion of adverse events control variable	Yes	Yes	Completion of adverse events control variable	Yes	Yes	Completion of adverse events control variable	Yes	Yes
Severity of disease dummy variable	Yes	Yes	Severity of disease dummy variable	Yes	Severity of disease dummy variable	Yes	Severity of disease dummy variable	Yes	Yes	Severity of disease dummy variable	Yes	Yes	Severity of disease dummy variable	Yes	Yes	Severity of disease dummy variable	Yes	Yes
Stage of disease dummy variable	Yes	Yes	Stage of disease dummy variable	Yes	Stage of disease dummy variable	Yes	Stage of disease dummy variable	Yes	Yes	Stage of disease dummy variable	Yes	Yes	Stage of disease dummy variable	Yes	Yes	Stage of disease dummy variable	Yes	Yes
Reimbursement level dummy variable	Yes	Yes	Reimbursement and medical costs (this time) control variable	Yes	Reimbursement and medical costs (this time) control variable	Yes	Reimbursement and medical costs (this time) control variable	Yes	Yes	Reimbursement and medical costs (this time) control variable	Yes	Yes	Reimbursement and medical costs (this time) control variable	Yes	Yes	Reimbursement and medical costs (this time) control variable	Yes	Yes
cost	1.800***	1.007**	cost	1.540***	cost	1.472***	cost	1.419***	1.560***	cost	1.511***	1.550***	cost	1.121***	1.340***	cost	1.117***	1.444***
	(0.22)	(0.17)		(0.20)		(0.20)		(0.40)	(0.74)		(0.15)	(0.40)		(0.40)	(0.14)		(0.45)	(0.40)
N	140	140	N	1478	N	1478	N	1478	1478	N	1478	1478	N	1478	1478	N	1478	1478
SE, R-sq	0.05	0.047	SE, R-sq	0.05	SE, R-sq	0.05	SE, R-sq	0.05	0.024	SE, R-sq	0.05	0.025	SE, R-sq	0.05	0.028	SE, R-sq	0.024	0.023

\* indicates in parentheses, \*\* p<0.01, \*\*\* p<0.001

**Table: Descriptive statistics of general preference and core concern**

	Low education and low income group		High education and high income group		Low education and high income group		High education and low income group		Managers of government-related organizations group		Employees of non-state economic types, urban self-employed and private entrepreneurs group	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Preference of service attitude dummy	707	19.15%	436	19.23%	344	19.20%	75	18.07%	235	19.65%	633	19.29%
Preference of technical quality dummy	1220	33.04%	805	35.51%	625	34.88%	144	34.70%	414	34.62%	1126	34.32%
Preference of price dummy	1099	29.77%	653	28.80%	485	27.06%	115	27.71%	336	28.09%	933	28.44%
Preference of facilities and environment dummy	666	18.04%	373	16.45%	338	18.86%	81	19.52%	211	17.64%	589	17.95%
Total	3692	100.00%	2267	100.00%	1792	100.00%	415	100.00%	1196	100.00%	3281	100.00%
Concern on whole institution	379	78.96%	248	89.53%	175	84.95%	48	88.89%	140	88.05%	333	82.63%
Concern on institutions' quality	188	39.17%	134	48.38%	99	48.06%	24	44.44%	68	42.77%	181	44.91%
Concern on institutions' doctor	166	34.58%	102	36.82%	66	32.04%	21	38.89%	69	43.40%	140	34.74%
Concern on institutions' service	25	5.21%	12	4.33%	10	4.85%	3	5.56%	3	1.89%	12	2.98%
Concern on institutions' price	101	21.04%	29	10.47%	31	15.05%	6	11.11%	19	11.95%	70	17.37%
Total	480	100.00%	277	100.00%	206	100.00%	54	100.00%	159	100.00%	403	100.00%



**Table: The results of regression between SES and general preference/core concern of the quality**

	(1) Preference of service attitude dummy	(2) Preference of technical quality dummy	(3) Preference of price dummy	(4) Preference of facilities and environment dummy	(1) Concern on whole institution	(2) Concern on institutions quality	(3) Concern on institutions doctor	(4) Concern on institutions service	(5) Concern on institutions price
Education	0.00748 (0.54)	0.0605*** (3.57)	0.0116 (0.80)	0.00543 (0.39)	0.0229 (1.38)	0.00349 (0.19)	0.0387* (1.93)	-0.0322 (-0.78)	-0.0853*** (-3.04)
Age dummy variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Severity of disease dummy variable					Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable					Yes	Yes	Yes	Yes	Yes
cut1	0.0999 (1.63)	-0.722*** (-10.02)	-0.450*** (-7.02)	0.281*** (4.53)	0.185 (1.26)	0.820*** (5.03)	0.873*** (4.91)	1.830*** (5.36)	1.268*** (5.10)
_cons									
N	3922	3922	3922	3922	2955	2955	2955	2955	2955
chi2	15.69	31.03	3.768	9.188	71.74	49.07	27.44	5.962	39.34
Income	0.0108 (1.16)	0.0469*** (4.24)	-0.00185 (-0.19)	-0.00276 (-0.30)	0.00990 (0.90)	0.00409 (0.33)	0.00859 (0.65)	0.0154 (0.57)	-0.0459*** (-2.60)
Age dummy variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Severity of disease dummy variable					Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable					Yes	Yes	Yes	Yes	Yes
cut1	0.122** (1.99)	-0.697*** (-9.75)	-0.486*** (-7.58)	0.257*** (4.16)	0.164 (1.12)	0.826*** (5.07)	0.808*** (4.58)	1.963*** (5.72)	1.318*** (5.34)
_cons									
N	3922	3922	3922	3922	2955	2955	2955	2955	2955
chi2	16.76	36.17	3.172	9.126	70.63	49.14	24.13	5.666	36.61
Professional and technical personnel	-0.0921 (-0.74)	0.283* (1.73)	-0.165 (-1.29)	-0.140 (-1.11)	-0.157 (-1.06)	-0.184 (-1.08)	-0.0395 (-0.22)	-0.0141 (-0.04)	-0.770* (-1.92)
Managers in government and government related enterprises	0.00721 (0.10)	0.0251 (0.29)	-0.0729 (-0.96)	-0.00885 (-0.12)	0.0282 (0.33)	-0.0528 (-0.55)	0.168 (1.64)	-0.436* (-1.70)	0.00875 (0.06)
The clerk and manager	0.0352	0.0383	-0.0113	0.00918	-0.0105	0.0245	-0.0290	-0.0819	-0.195

	(0.53)	(0.49)	(-0.16)	(0.14)	(-0.13)	(0.28)	(-0.30)	(-0.43)	(-1.47)
Commercial Staff	-0.00130	0.0740	0.00401	0.0350	-0.0439	-0.0194	-0.0160	-0.176	0.0693
	(-0.02)	(0.76)	(0.05)	(0.43)	(-0.45)	(-0.18)	(-0.13)	(-0.72)	(0.47)
Service staff	-0.101	-0.170	-0.518	0.180	-0.518	-0.461	-0.186	-3.091	0.273
	(-0.25)	(-0.37)	(-1.29)	(0.45)	(-1.11)	(-0.84)	(-0.33)	(-0.02)	(0.48)
Farmers, animal husbandry and fishery workers	0.0417	0.110	0.0760	-0.157*	-0.205**	-0.0456	-0.223*	-0.671*	-0.0320
	(0.52)	(1.14)	(0.90)	(-1.94)	(-2.09)	(-0.42)	(-1.77)	(-1.88)	(-0.21)
Production workers, transport workers and associated personnel	-0.262	-0.571	5.684	-0.260	-0.195	0.352	-3.833	2.994	3.249
	(-0.35)	(-0.75)	(0.00)	(-0.34)	(-0.26)	(0.47)	(-0.03)	(-0.01)	(-0.02)
Other workers	-0.134	-0.311**	-0.250*	-0.187	-0.0659	-0.0268	-0.130	0.195	0.258
	(-1.05)	(-2.25)	(-1.95)	(-1.45)	(-0.46)	(-0.17)	(-0.72)	(0.69)	(1.28)
Age dummy variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Severity of disease dummy variable					Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable					Yes	Yes	Yes	Yes	Yes
cut1	0.0803	-0.868***	-0.482***	0.260***	0.119	0.816***	0.759***	1.890***	1.471***
_cons	(1.57)	(-14.49)	(-8.98)	(5.01)	(0.83)	(5.15)	(4.40)	(5.66)	(6.08)
N	3922	3922	3922	3922	2955	2955	2955	2955	2955
chi2	18.55	30.47	15.55	18.63	78.43	52.19	36.56	14.88	42.73
Employees of state-owned enterprises	-0.0113	0.0825	0.151	-0.0538	0.163	0.0627	0.304*	-0.361	-0.305
	(-0.10)	(0.62)	(1.32)	(-0.48)	(1.19)	(0.42)	(1.66)	(-1.33)	(-1.55)
Employees of various non-state-owned enterprises	0.0543	0.0860	0.130	-0.0454	0.116	0.0597	0.246	-0.485	-0.135
	(0.47)	(0.62)	(1.09)	(-0.39)	(0.82)	(0.38)	(1.30)	(-1.62)	(-0.66)
Urban self-employed and private entrepreneurs	-0.0912	-0.103	-0.0809	0.0112	0.333**	0.144	0.475**	-0.339	0.107
	(-0.65)	(-0.64)	(-0.57)	(0.08)	(1.98)	(0.77)	(2.21)	(-0.91)	(0.46)
Homeworkers	0.0337	0.0458	0.199	-0.0664	0.121	0.0459	0.228	-0.210	-0.202
	(0.27)	(0.31)	(1.55)	(-0.53)	(0.80)	(0.27)	(1.13)	(-0.66)	(-0.91)
Unemployed, to be distributed or other non-employed	0.161	-0.140	0.105	-0.103	0.428*	-0.139	0.785***	-0.157	0.323

	(0.75)	(-0.58)	(0.48)	(-0.48)	(1.70)	(-0.47)	(2.70)	(-0.30)	(0.96)
Students	-0.0938	-0.0518	0.0670	0.111	0.292	-0.00736	0.473**	0.135	0.0414
	(-0.61)	(-0.29)	(0.43)	(0.73)	(1.59)	(-0.04)	(2.05)	(0.40)	(0.16)
Reemployment of retired or retired personnel	0.0283	-0.107	0.0794	0.120	-0.0174	-0.0628	0.153	-0.331	-0.0983
	(0.16)	(-0.55)	(0.44)	(0.69)	(-0.08)	(-0.27)	(0.57)	(-0.70)	(-0.33)
Incapacitated	-0.118	0.0383	0.00695	0.198	0.301	0.376*	0.141	-3.414	-0.214
	(-0.67)	(0.18)	(0.04)	(1.13)	(1.47)	(1.73)	(0.53)	(-0.04)	(-0.65)
Age dummy variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Severity of disease dummy variable					Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable					Yes	Yes	Yes	Yes	Yes
cut1	0.113	-0.845***	-0.313**	0.218*	0.288	0.865***	1.069***	1.646***	1.361***
_cons	(0.89)	(-5.68)	(-2.39)	(1.72)	(1.41)	(3.81)	(4.10)	(3.67)	(4.28)
N	3922	3922	3922	3922	2955	2955	2955	2955	2955
chi2	20.24	23.99	12.30	16.04	79.77	54.55	37.89	13.53	42.60
Registered residence Category	-0.0238	0.105*	0.213***	-0.0200	-0.0424	-0.0143	-0.106	0.521**	-0.123
	(-0.49)	(1.84)	(4.23)	(-0.41)	(-0.73)	(-0.22)	(-1.54)	(2.47)	(-1.38)
Age dummy variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Severity of disease dummy variable					Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable					Yes	Yes	Yes	Yes	Yes
cut1	0.0631	-0.793***	-0.320***	0.252***	0.0959	0.801***	0.696***	2.356***	1.376***
_cons	(1.01)	(-10.93)	(-4.96)	(4.01)	(0.64)	(4.82)	(3.87)	(6.17)	(5.52)
N	3922	3922	3922	3922	2955	2955	2955	2955	2955
chi2	15.64	21.48	20.94	9.204	70.36	49.08	26.08	13.38	31.68
Time of residence	0.0508**	0.0191	0.0228	-0.0785***	0.00451	0.0322	-0.0374	0.0129	0.0234
	(2.37)	(0.75)	(1.01)	(-3.60)	(0.18)	(1.13)	(-1.19)	(0.21)	(0.58)
Age dummy variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Severity of disease dummy variable					Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable					Yes	Yes	Yes	Yes	Yes
cut1	0.181***	-0.834***	-0.435***	0.115*	0.139	0.877***	0.705***	1.935***	1.522***
_cons	(2.75)	(-10.88)	(-6.34)	(1.73)	(0.92)	(5.24)	(3.86)	(5.46)	(6.00)
N	3922	3922	3922	3922	2955	2955	2955	2955	2955
chi2	21.01	18.71	4.154	22.05	69.86	50.30	25.13	5.387	30.15

t statistics in parentheses, \* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table: The results of regression between SES-general preference/core concern and satisfaction**

	(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)	(5)
	Overall satisfaction with the hospital					Overall satisfaction with the hospital				
Education	-0.0163	-0.00391	-0.00102	-0.0175*	Education	-0.0215**	-0.0174*	-0.0164*	-0.0151	-0.0147
	(-1.59)	(-0.29)	(-0.09)	(-1.74)		(-2.13)	(-1.78)	(-1.68)	(-1.57)	(-1.53)
Education * Preference of service attitude dummy	0.00683				Education * Concern on whole institution dummy	0.0177**				
	(0.92)					-2.31				
Education * Preference of technical quality dummy		-0.0101			Education * Concern on institutions' quality dummy		0.0139			
		(-0.97)					-1.51			
Education * Preference of price dummy			-0.0169**		Education * Concern on institutions' doctor dummy			0.0106		
			(-2.10)					-1.02		
Education * Preference of facilities and environment dummy				0.0114	Education * Concern on institutions' service dummy				0.0367	
				(1.52)					-1.15	
					Education * Concern on institutions' price dummy					0.00482
										-0.27
Age dummy variable	Yes	Yes	Yes	Yes	Age dummy variable	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Yes
Severity of disease dummy variable					Severity of disease dummy variable	Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable					Stage of disease dummy variable	Yes	Yes	Yes	Yes	Yes
_cons	3.711***	3.708***	3.710***	3.708***	_cons	3.720***	3.726***	3.729***	3.732***	3.731***
	(82.19)	(82.04)	(82.22)	(82.12)		-46.93	-47.02	-47.06	-47.13	-47.1
N	2958	2958	2958	2958	N	2954	2954	2954	2954	2954
adj. R-sq	0.005	0.005	0.006	0.006	adj. R-sq	0.013	0.012	0.012	0.012	0.012
Income	-0.0145**	-0.00571	-0.00725	-0.0162**	Income	-0.0192***	-0.0159**	-0.0164**	-0.0148**	-0.0145**
	(-2.12)	(-0.62)	(-0.97)	(-2.41)		(-2.86)	(-2.44)	(-2.53)	(-2.31)	(-2.27)
Income * Preference of service attitude dummy	0.00182				Income * Concern on whole institution dummy	0.0128**				
	(0.34)					-2.32				
Income * Preference of technical quality dummy		-0.00890			Income * Concern on institutions' quality dummy		0.00732			

Income * Preference of price dummy														
Income * Preference of facilities and environment dummy														
Age dummy variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Severity of disease dummy variable														
Stage of disease dummy variable														
_cons	3.726***	3.725***	3.727***	3.725***										
	(85.21)	(85.13)	(85.27)	(85.19)										
N	2958	2958	2958	2958										
adj. R-sq	0.006	0.006	0.007	0.006										
Registered residence Category	-0.0446	-0.000511	0.0239	-0.0595										
	(-1.21)	(-0.01)	(0.58)	(-1.64)										
Registered residence Category * Preference of service attitude dummy	0.0180													
	(0.57)													
Registered residence Category * Preference of technical quality dummy		-0.0427												
		(-1.00)												
Registered residence Category * Preference of price dummy			-0.0852**											
			(-2.47)											
Registered residence Category * Preference of facilities and environment dummy				0.0576*										
				(1.80)										
Age dummy variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Yes
Severity of disease dummy variable					Severity of disease dummy variable	Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable					Stage of disease dummy variable	Yes	Yes	Yes	Yes	Yes
_cons	3.702***	3.701***	3.701***	3.701***	_cons	3.721***	3.723***	3.726***	3.727***	3.726***
	(83.44)	(83.44)	(83.51)	(83.47)		-51.55	-51.53	-51.6	-51.6	-51.58
N	2958	2958	2958	2958	N	2954	2954	2954	2954	2954
adj. R-sq	0.005	0.005	0.007	0.006	adj. R-sq	0.013	0.012	0.012	0.011	0.011
Time of residence	-0.0161	0.00683	0.00963	-0.0139	Time of residence	-0.0181	-0.0148	-0.0101	-0.00942	-0.0114
	(-1.01)	(0.36)	(0.57)	(-0.91)		(-1.18)	(-0.98)	(-0.68)	(-0.63)	(-0.76)
Time of residence * Preference of service attitude dummy	0.0113				Time of residence * Concern on whole institution dummy	0.0250**				
	(1.11)					-2.36				
Time of residence * Preference of technical quality dummy		-0.0194			Time of residence * Concern on institutions' quality dummy		0.0253**			
		(-1.39)					-2.03			
Time of residence * Preference of price dummy			-0.0262**		Time of residence * Concern on institutions' doctor dummy			0.01		
			(-2.37)					-0.68		
Time of residence * Preference of facilities and environment dummy				0.0135	Time of residence * Concern on institutions' service dummy				0.0233	
				(1.30)					-0.56	
					Time of residence * Concern on institutions' price dummy					0.0373*
										-1.69
Age dummy variable	Yes	Yes	Yes	Yes	Age dummy variable	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Medical expense and reimbursement instrumental variable (last year)	Yes	Yes	Yes	Yes	Yes
Severity of disease dummy variable					Severity of disease dummy variable	Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable					Stage of disease dummy variable	Yes	Yes	Yes	Yes	Yes
_cons	3.697***	3.694***	3.693***	3.609***	_cons	3.691***	3.699***	3.700***	3.703***	3.706***
	(76.60)	(76.58)	(76.62)	(58.45)		-43.19	-43.33	-43.26	-43.37	-43.41
N	2958	2958	2958	2958	N	2954	2954	2954	2954	2954
adj. R-sq	0.005	0.005	0.006	0.005	adj. R-sq	0.013	0.012	0.011	0.011	0.012

t statistics in parentheses, \* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table: The results of structural difference regression between dimension of satisfaction, general preference/core concern and overall satisfaction**

	(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)	(5)
	Overall satisfaction with the hospital					Overall satisfaction with the hospital				
Satisfaction with respect in interaction	0.406*** (25.17)	0.426*** (24.70)	0.414*** (25.34)	0.404*** (25.19)	Satisfaction with respect in interaction	0.406*** -25.21	0.406*** -25.6	0.410*** -25.7	0.408*** -25.73	0.408*** -25.78
Satisfaction with respect in interaction * Preference of service attitude dummy	0.00402 (0.63)				Satisfaction with respect in interaction * Concern on whole institution dummy	0.00517 -0.79				
Satisfaction with respect in interaction * Preference of technical quality dummy		-0.0218*** (-2.59)			Satisfaction with respect in interaction * Concern on institutions' quality dummy		0.0138* -1.72			
Satisfaction with respect in interaction * Preference of price dummy			-0.00918 (-1.35)		Satisfaction with respect in interaction * Concern on institutions' doctor dummy			-0.00768 (-0.88)		
Satisfaction with respect in interaction * Preference of facilities and environment dummy				0.00898 (1.40)	Satisfaction with respect in interaction * Concern on institutions' service dummy				0.00341	
					Satisfaction with respect in interaction * Concern on institutions' price dummy					0.000261 -0.02
Rehabilitation level dummy variable	Yes	Yes	Yes	Yes	Rehabilitation level dummy variable	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable	Yes	Yes	Yes	Yes	Medical expense and reimbursement instrumental variable	Yes	Yes	Yes	Yes	Yes
Complaints of adverse events control variable	Yes	Yes	Yes	Yes	Complaints of adverse events control variable	Yes	Yes	Yes	Yes	Yes
_cons	1.815*** (10.26)	1.811*** (10.25)	1.815*** (10.26)	1.813*** (10.26)	_cons	1.818*** -10.27	1.816*** -10.27	1.809*** -10.22	1.814*** -10.26	1.814*** -10.25
N	3481	3481	3481	3481	N	3481	3481	3481	3481	3481
adj. R-sq	0.187	0.189	0.187	0.188	adj. R-sq	0.187	0.187	0.187	0.187	0.187
Satisfaction with clarity of explanation in interaction	0.401*** (25.90)	0.421*** (25.11)	0.411*** (26.01)	0.401*** (25.97)	Satisfaction with clarity of explanation in interaction	0.403*** -25.9	0.402*** -26.29	0.406*** -26.43	0.404*** -26.52	0.404*** -26.54
Satisfaction with clarity of explanation in interaction * Preference of service attitude dummy	0.00858 (1.32)				Satisfaction with clarity of explanation in interaction * Concern on whole institution dummy	0.00349 -0.52				
Satisfaction with clarity of explanation in interaction * Preference of technical quality dummy		-0.0187** (-2.18)			Satisfaction with clarity of explanation in interaction * Concern on institutions' quality dummy		0.00954 -1.17			



Satisfaction with clarity of explanation in interaction * Preference of price dummy			-0.00951 (-1.37)		Satisfaction with clarity of explanation in interaction * Concern on institutions' doctor dummy			-0.00701 (-0.79)		
Satisfaction with clarity of explanation in interaction * Preference of facilities and environment dummy			0.0103 (1.58)		Satisfaction with clarity of explanation in interaction * Concern on institutions' service dummy			0.013 -0.53		
					Satisfaction with clarity of explanation in interaction * Concern on institutions' price dummy				0.00328 -0.25	
Rehabilitation level dummy variable	Yes	Yes	Yes	Yes	Rehabilitation level dummy variable	Yes	Yes	Yes	Yes	
Medical expense and reimbursement instrumental variable	Yes	Yes	Yes	Yes	Medical expense and reimbursement instrumental variable	Yes	Yes	Yes	Yes	
Complaints of adverse events control variable	Yes	Yes	Yes	Yes	Complaints of adverse events control variable	Yes	Yes	Yes	Yes	
_cons	1.848*** (10.56)	1.845*** (10.54)	1.848*** (10.56)	1.847*** (10.55)	_cons	1.854*** -10.58	1.854*** -10.59	1.847*** -10.54	1.850*** -10.56	1.850*** -10.56
N	3481	3481	3481	3481	N	3481	3481	3481	3481	3481
adj. R-sq	0.196	0.196	0.196	0.196	adj. R-sq	0.195	0.195	0.195	0.195	0.195
Satisfaction with the waiting time	0.138*** (10.85)	0.164*** (11.08)	0.150*** (11.24)	0.134*** (10.67)	Satisfaction with the waiting time	0.136*** -11.12	0.139*** -11.42	0.139*** -11.36	0.140*** -11.44	0.141*** -11.5
Satisfaction with the waiting time * Preference of service attitude dummy	0.00482 (0.65)				Satisfaction with the waiting time * Concern on whole institution dummy	0.0262*** -3.29				
Satisfaction with the waiting time * Preference of technical quality dummy		-0.0276*** (-2.79)			Satisfaction with the waiting time * Concern on institutions' quality dummy		0.0277*** -2.77			
Satisfaction with the waiting time * Preference of price dummy			-0.0146* (-1.83)		Satisfaction with the waiting time * Concern on institutions' doctor dummy			0.0127 -1.19		
Satisfaction with the waiting time * Preference of facilities and environment dummy				0.0163** (2.17)	Satisfaction with the waiting time * Concern on institutions' service dummy				0.0203 -0.72	
					Satisfaction with the waiting time * Concern on institutions' price dummy					-0.0107 (-0.76)
Rehabilitation level dummy variable	Yes	Yes	Yes	Yes	Rehabilitation level dummy variable	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable	Yes	Yes	Yes	Yes	Medical expense and reimbursement instrumental variable	Yes	Yes	Yes	Yes	Yes
Complaints of adverse events control variable	Yes	Yes	Yes	Yes	Complaints of adverse events control variable	Yes	Yes	Yes	Yes	Yes

_cons	2.829***	2.823***	2.823***	2.826***	_cons	2.822***	2.822***	2.828***	2.827***	2.826***
	(15.37)	(15.36)	(15.35)	(15.37)		-15.36	-15.35	-15.37	-15.36	-15.36
N	3481	3481	3481	3481	N	3481	3481	3481	3481	3481
adj. R-sq	0.066	0.068	0.067	0.068	adj. R-sq	0.069	0.068	0.067	0.066	0.066
Satisfaction with facilities and environment	0.326***	0.342***	0.334***	0.324***	Satisfaction with facilities and environment	0.332***	0.336***	0.328***	0.328***	0.329***
	(17.81)	(17.67)	(18.04)	(17.58)		-17.73	-18.14	-18.07	-18.16	-18.22
Satisfaction with facilities and environment * Preference of service attitude dummy	0.00937				Satisfaction with facilities and environment * Concern on whole institution dummy	-0.00435				
	(1.32)					(-0.59)				
Satisfaction with facilities and environment * Preference of technical quality dummy		-0.0164*			Satisfaction with facilities and environment * Concern on institutions' quality dummy		-0.0145*			
		(-1.77)					(-1.67)			
Satisfaction with facilities and environment * Preference of price dummy			-0.00838		Satisfaction with facilities and environment * Concern on institutions' doctor dummy			0.00684		
			(-1.10)					-0.69		
Satisfaction with facilities and environment * Preference of facilities and environment dummy				0.0120*	Satisfaction with facilities and environment * Concern on institutions' service dummy				0.0306	
				(1.68)					-1.14	
					Satisfaction with facilities and environment * Concern on institutions' price dummy					0.0135
										-0.91
Rehabilitation level dummy variable	Yes	Yes	Yes	Yes	Rehabilitation level dummy variable	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable	Yes	Yes	Yes	Yes	Medical expense and reimbursement instrumental variable	Yes	Yes	Yes	Yes	Yes
Complaints of adverse events control variable	Yes	Yes	Yes	Yes	Complaints of adverse events control variable	Yes	Yes	Yes	Yes	Yes
_cons	2.145***	2.148***	2.151***	2.150***	_cons	2.142***	2.130***	2.151***	2.146***	2.141***
	(11.56)	(11.58)	(11.59)	(11.59)		-11.51	-11.45	-11.58	-11.56	-11.52
N	3481	3481	3481	3481	N	3481	3481	3481	3481	3481
adj. R-sq	0.116	0.116	0.116	0.116	adj. R-sq	0.115	0.116	0.115	0.116	0.115
Satisfaction with the convenience of bill checking	0.346***	0.365***	0.364***	0.350***	Satisfaction with the convenience of bill checking	0.348***	0.351***	0.350***	0.350***	0.351***
	(17.13)	(16.70)	(17.49)	(17.51)		-17.16	-17.59	-17.62	-17.72	-17.79
Satisfaction with the convenience of bill checking * Preference of service attitude dummy	0.00872				Satisfaction with the convenience of bill checking * Concern on whole institution dummy	0.00627				
	(1.00)					-0.7				
Satisfaction with the convenience of bill checking * Preference of technical quality dummy		-0.0162			Satisfaction with the convenience of bill checking * Concern on institutions' quality dummy		0.000944			

Satisfaction with the convenience of bill checking * Preference of price dummy										
Satisfaction with the convenience of bill checking * Preference of facilities and environment dummy										
Rehabilitation level dummy variable	Yes	Yes	Yes	Yes	Rehabilitation level dummy variable	Yes	Yes	Yes	Yes	Yes
Medical expense and reimbursement instrumental variable	Yes	Yes	Yes	Yes	Medical expense and reimbursement instrumental variable	Yes	Yes	Yes	Yes	Yes
Complaints of adverse events control variable	Yes	Yes	Yes	Yes	Complaints of adverse events control variable	Yes	Yes	Yes	Yes	Yes
_cons	2.234***	2.231***	2.228***	2.229***	_cons	2.235***	2.232***	2.233***	2.229***	2.230***
	(10.43)	(10.42)	(10.41)	(10.40)		-10.42	-10.41	-10.42	-10.4	-10.39
N	2083	2083	2083	2083	N	2083	2083	2083	2083	2083
adj. R-sq	0.170	0.171	0.171	0.170	adj. R-sq	0.17	0.17	0.17	0.17	0.17

t statistics in parentheses, \* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table: Descriptive statistics of Yiyao yangyi belief**

		Low education and low income group		High education and high income group		Low education and high income group		High education and low income group		Managers in government related organizations group		Employees of non-state economic types, urban self-employed and private entrepreneurs group	
Yiyao yangyi	Unsupport	818	52.20%	545	59.82%	425	55.85%	102	56.98%	318	63.73%	773	56.75%
	Support	749	47.80%	366	40.18%	336	44.15%	77	43.02%	181	36.27%	589	43.25%
	Total	1567	100.00%	911	100.00%	761	100.00%	179	100.00%	499	100.00%	1362	100.00%

**Table: The results of regression between Yiyaoyangyi belief, general preference and satisfaction**

	(1)	(2)	(3)	(4)	(5)	(6)
	Overall satisfaction with the hospital	Satisfaction with respect in interaction	Satisfaction with clarity of explanation in interaction	Satisfaction with the waiting time	Satisfaction with facilities and environment	Satisfaction with the convenience of bill checking
Preference of service attitude dummy	0.0911*** (2.95)	0.0784** (2.56)	0.0445 (1.42)	0.0382 (0.91)	0.000566 (0.02)	0.126*** (2.97)
Yiyaoyangyi belief dummy * Preference of service attitude dummy	-0.153*** (-4.03)	-0.131*** (-3.48)	-0.126*** (-3.26)	-0.0592 (-1.15)	-0.0835** (-2.46)	-0.207*** (-3.99)
Severity of disease dummy variable	Yes	Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable	Yes	Yes	Yes	Yes	Yes	Yes
_cons	3.741*** (66.34)	3.339*** (48.15)	3.269*** (45.86)	2.925*** (30.62)	3.271*** (52.16)	2.982*** (30.80)
N	3494	3495	3495	3495	3495	2096
adj. R-sq	0.011	0.010	0.008	0.014	0.009	0.021
Preference of technical quality dummy	0.00441 (0.12)	0.0755** (2.11)	0.0617* (1.68)	0.0895* (1.82)	-0.0127 (-0.39)	0.134*** (2.82)
Yiyaoyangyi belief dummy * Preference of technical quality dummy	-0.132*** (-4.62)	-0.0681** (-2.41)	-0.0750*** (-2.59)	-0.0432 (-1.11)	-0.0840*** (-3.30)	-0.122*** (-3.11)
Severity of disease dummy variable	Yes	Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable	Yes	Yes	Yes	Yes	Yes	Yes
_cons	3.795*** (62.03)	3.311*** (45.16)	3.240*** (43.01)	2.875*** (28.51)	3.295*** (49.79)	2.934*** (28.90)
N	3494	3495	3495	3495	3495	2096
adj. R-sq	0.013	0.008	0.007	0.015	0.011	0.019
Preference of price dummy	-0.00123 (-0.04)	-0.00145 (-0.05)	0.00187 (0.06)	0.0251 (0.59)	-0.0446 (-1.61)	0.0929** (2.21)
Yiyaoyangyi belief dummy * Preference of price dummy	-0.139*** (-4.46)	-0.0882*** (-2.86)	-0.0978*** (-3.09)	-0.0684 (-1.61)	-0.0765*** (-2.75)	-0.125*** (-2.92)
Severity of disease dummy variable	Yes	Yes	Yes	Yes	Yes	Yes

Stage of disease dummy variable	Yes	Yes	Yes	Yes	Yes	Yes
_cons	3.795*** (65.10)	3.374*** (47.80)	3.291*** (45.39)	2.936*** (30.22)	3.306*** (51.88)	2.971*** (30.22)
N	3494	3495	3495	3495	3495	2096
adj. R-sq	0.013	0.009	0.008	0.015	0.012	0.018
Preference of facilities and environment dummy	0.109*** (3.50)	0.0420 (1.37)	0.0412 (1.30)	-0.00665 (-0.16)	0.0799*** (2.88)	0.0466 (1.10)
Yiyaoyangyi belief dummy * Preference of facilities and environment dummy	-0.129*** (-3.16)	-0.0381 (-0.95)	-0.0846** (-2.04)	-0.0692 (-1.25)	-0.0644* (-1.77)	-0.0705 (-1.27)
Severity of disease dummy variable	Yes	Yes	Yes	Yes	Yes	Yes
Stage of disease dummy variable	Yes	Yes	Yes	Yes	Yes	Yes
_cons	3.728*** (66.10)	3.331*** (48.07)	3.257*** (45.75)	2.943*** (30.90)	3.229*** (51.62)	2.980*** (30.74)
N	3494	3495	3495	3495	3495	2096
adj. R-sq	0.010	0.007	0.006	0.015	0.009	0.014

t statistics in parentheses, \* p<0.10, \*\* p<0.05, \*\*\* p<0.01