

# Exploring Factors Influencing Consumer Choice of Traditional Chinese Medicine: A Comprehensive Analysis

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## Background:

Traditional Chinese Medicine (TCM) has a long and rich history and is one of the oldest literates and continuously practiced forms of medicine in the world. It evolved from over 2000 years of clinical observations and reflects the Chinese cultural legacy and values of longevity and wellness. Today, traditional Chinese medicine is the primary healthcare system for over 25% of the world's population. There are rare studies about evaluating the recognition and reputation in its country of origin, China. Our research would like to focus on the following two research questions: (1) How was the current situation of traditional Chinese medicine in China? (2) What are the most important factors to affect patients' preference on traditional Chinese medicine?

## Data

The data we used is from Chinese Health Insurance Dataset, which contains the basic demographic, insurance, and diagnostic/treatment information of all patients from urban areas from 2007 to 2017, including 117,839 observations.

## Methodology

We started with logistic regression to check the significant factors affecting patients' TCM preference, and also the magnitude of effects on patients' TCM preference from all other factors. Our dependent variable (Y) is a binary variable, i.e., the patient chose to be admitted into TCM division and the patient chose to visit TCM hospital, then  $Y = 1$ , or else,  $Y = 0$ . The independent variables include payment methods, age, gender, visit type, health insurance type, city type, region, GDP per capita, economic openness index.

## Results

All the variables may affect the patients' choice on TCM positively. After conducting several heterogeneity analyses, we discovered: (1) The high self-paid patients are more likely to choose TCM hospital than the low self-paid patients; the high self-paid patients are less likely to choose TCM division than the low self-paid patients. (2) The odds ratio of elderly people choosing TCM hospital is lower than that of young patients; the odds ratio of elderly patients choosing TCM division is higher than that of young patients. (3) In national-level cities, the higher the degree of openness, the more inclined to choose western medicine; in metropolitan cities, the higher the degree of openness, the more inclined to choose TCM. (4) In the sample with a low proportion of self-pay, young people are more likely to choose TCM than elderly patients.

## Conclusion

Our research has demonstrated the several factors which may affect the patients' selection on TCM, such as age, city type, and payment methods. From the regression results, we can conclude that female patient, older patients, patients from east coast, patient from metro city, or patients with worker's insurance may have higher probability to prefer TCM. Most importantly, we were able to differentiate the influences from different factors on patients' preference of TCM. Potential interesting heterogeneity results appear in city type, self-pay rate and age. In the next step of the research, we would like to dig deeply on the relationship between region, city type, and the payment methods. Due to the differentiations of the payment methods among various cities, it is possible that patients from east coast or metro

cities have better insurance coverage or lower out-of-pocket payment on TCM. Meanwhile, the admitted TCM patients number and discharged TCM patients number show a quite significant difference in our dataset. We also would like to investigate the reason behind this number differentiation by using a Diff-in-Diff methods to identify the transition of the inconsistency of admitted and discharged numbers.