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Short Communication

Rural–urban disparity in health care: observations from Suzhou, China

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Introduction

China is a huge country with significant rural–urban differences. The vast rural areas generally have lower socio-economic status. The lower quality of health care in the rural areas was recognised in early studies.[1] Two strategies have been taken to eliminate the rural–urban disparity in health care. The first is a reform of the healthcare system initiated in 2009 and ended in 2012.[2] As part of the reform, healthcare resources were redistributed towards the rural areas. The second strategy is a merger of the basic insurance systems.[3] As of today, commercial health insurance is still underdeveloped, and the basic insurance dominates. The prevalent basic health insurance consists of three different schemes, namely the Urban Employee Basic Medical Insurance (UEBMI), Urban Resident Basic Medical Insurance (URBMI), and New Cooperative Medical Scheme (NCMS). They cover different populations, have different regulations and coverage depths, and are managed by different government agencies.[4] The basic insurance is localised with limited portability. It 'encourages' the rural patients to use healthcare facilities in the rural areas: although they can have health care in the urban areas, only a limited number of urban hospitals allow the utilisation of NCMS. The divergent basic insurance systems have been suggested as contributing to the rural–urban disparity. The central government chose several regions for experiment, merging the three basic insurance schemes. One of those chosen regions is the city of Suzhou in the Jiangsu Province. Merger of the basic insurance schemes in Suzhou was started in 2008 and finished in 2012. The goal of this study was to assess whether the rural–urban disparity in health care still exists in Suzhou. This study advances from the existing ones by being the first to study healthcare disparity after the healthcare reform and insurance merger. Another unique feature is that micro and personal data were collected using a survey, which can provide insights not shared by the macro government databases.

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A survey was conducted in Suzhou in August of 2014. It was approved by a research ethics review committee at the Renmin University of China (RUC). It focused on subjects over 45 years old and with at least one episode of inpatient or outpatient treatment in a period of 12 months prior to survey. This age group has worse health conditions and demands more attention. Sampling was conducted in two stages. First, rural and urban communities that are geographically well separated were selected. Macro data such as per capita GDP and population density were considered to achieve representativeness. Within communities, subjects were randomly selected. Characteristics of the sampled subjects were compared against the whole Suzhou population, which suggested representativeness. The survey response rate was 62%. A total of 655 subjects finished the survey, among whom 27% were rural as defined by 'Hukou' (as of 2014, 26% of the Suzhou population was rural). Basic information on the non-responders was collected, and no significant selection bias was observed. Information was collected on demographics, personal characteristics, and inpatient and outpatient treatments. Analysis was conducted at the subject level. For inpatient and outpatient treatment separately, comparisons of the rural and urban subjects were made. For continuous and categorical variables respectively, *t*-tests and chi-squared (Fisher's) tests were adopted. Analysis was conducted using S-Plus version 8.2. Results are provided in Table 1.

Sample characteristics

A total of 357 subjects had inpatient treatments, among whom 246 were urban. A total of 562 had outpatient treatments, among whom 423 were urban. In the comparison of demographic and personal characteristics, for both inpatient and outpatient treatments, there is no difference between rural and urban in the distributions of gender, age, and marital status. For both types of treatments, urban subjects have a higher level of education (*P*-values 0.0005 and < 0.0001, respectively). Significant difference is observed in occupation, with significantly more farmers in rural. Urban subjects have significantly higher personal and household income. For outpatient treatment, significant difference is observed in the distribution of physical condition. For example, 18.0% of the rural subjects were 'sick', compared to 9.2% for the urban subjects.

Access to healthcare facility

The nearest hospital is used as a surrogate for healthcare facility. Accessibility is measured using the distance and type of the nearest hospital.[5] For both inpatient and outpatient treatments, rural subjects have longer distances to the nearest hospitals (*P*-values < 0.0001). For example for inpatient treatment, 79.7% of the urban subjects have the nearest hospitals within 1 km, compared to 51.4% for the rural subjects. The dominating majority of subjects used public hospitals, as private hospitals are limited and deemed as having a lower quality. Public hospitals are under a rigorous grading system, with grade III hospitals providing the highest quality of care. Significant difference is observed in the type of the nearest hospital. For example for inpatient treatment, 82.9% of the rural subjects have the nearest hospitals being grade I, compared to 48.8% for the urban subjects.

Utilisation of healthcare facility and insurance

The nearest hospital is not necessarily the one used for treatment.[5] The actual utilisation of hospital for treatment is also examined, and significant rural–urban differences are observed (*P*-values < 0.0001). For example for outpatient treatment, 62.3% of the rural subjects used grade I hospitals, compared to 41.0% for the urban subjects. Urban subjects stayed slightly longer for inpatient treatments (20.4 days, compared to 19.9 days for rural) and had more outpatient treatments (8.3 compared to 5.9 times, *P*-value = 0.0001). Health insurance is an important aspect of health care. Under the current system, insurance utilisation is not automatic. The insured need to go through a certain administrative process to utilise insurance.[6] Among the surveyed subjects, for inpatient treatment, the insurance utilisation rate is high for both rural and urban. However, for outpatient treatment, a significant lower utilisation rate is observed for rural (69.8%, compared to 92.0% for urban).

Cost

Three different types of cost are analysed,[5] namely the cost of treatment, total cost (which includes cost of treatment, transportation/food/accommodation, medicine/supplies, unofficial gift to healthcare providers, and lost income), and out-of-pocket cost (OOP, which is total cost subtracts insurance reimbursement). For inpatient treatment, the treatment and total cost of rural subjects was lower by 4.5K and 4.6K RMB. For outpatient treatment, the cost was lower by 1.3K and 2.1K RMB. The OOP cost shows no difference between rural and urban.

Discussions

Although the rural–urban healthcare disparity in China has been recognised in published studies, this study is the first to examine such disparity after the healthcare reform and insurance merger. The surveyed rural and urban subjects have comparable gender, age, and marital status distributions. The observed differences in education, occupation, and income are as expected. Although the government has spent tremendous effort redistributing resources towards the rural areas, our survey shows that the rural subjects still have poorer access to healthcare facility. In the survey, the rural and urban subjects are observed to have largely comparable physical conditions. Thus, the rural subjects' lower rates of using grade III hospitals and lower days/times of treatment can suggest a lower quality of care. More investment is needed to bring equal health care to the rural.[7] An important finding is that for outpatient treatment, the rural subjects have a lower insurance utilisation rate. It is critical to identify the hurdles that have prevented the rural subjects from using insurance and design interventions