Survey and Analysis of Mid-and-low Income Group Medical Services Demand in Miyun County, Beijing

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Abstract: Objective of this paper is to analyze the medical services demand of China’s rural residents and propose effective solutions for China’s health care system to meet rural residents’ demand. Our sample was collected from a rural area, Miyun County, Beijing, and our respondents were asked for their socio-economic status and disease information, their medical services utilization, as well as, their opinions on the quality of medical services, including availability, expectation, and satisfaction. We found that there was a huge gap between the demand and supply of medical services among rural residents. As a result, we suggest the government to promote health education, to enhance the quality of health care system management, to broaden the coverage of rural medical protection system, to improve the existing drug delivery system, as well as, to upgrade rural health care system.

Keywords: Rural residents, medical services demand, survey

Introduction

Health care reform involves three aspects – demand side, supply side, and matching between demand and supply of medical services. However, the matching issue is caused by a complex and interactive relationship between demand and supply in health care system. For example, due to information asymmetry, some well-known factors for health care reform are supplier-induced demand and moral hazard. In China, there is widening disparity between rural and urban areas, including income, education and health. How to narrow down the health disparity and to promote the level of health care system in rural area becomes the top priority for the Government. Recently, for the sake of improving the standard of rural areas’ health care system, the Government has introduced New Rural Cooperative Medical System (NRCMS), leading to significantly higher coverage of rural areas’ health protection and greatly reducing the burden of rural residents’ private health expenditure. Nowadays, the effectiveness or efficiency of rural areas’ health care system is mainly determined by the two remaining factors – supply and the matching issue. It is important for the Government to restructure the health care system (especially supply side), including private and public, so as to create the virtuous circle in the interactive matching progress of demand and supply of health care services; otherwise, China health care reform might fall into the vicious circle (higher medical cost, lower service standard, and higher government health expenditure) faced by many advanced countries, like US.

Many local scholars pointed out that the three major parts of health care, including pharmaceutical industry (supply side), health care services (supply side), and medical insurance (demand side), should be reformed together, because these three parts are interlocked. As the demand side of rural areas’ health care system (or NRCMS) has already been reformed, it is much more urgent for the Government to implement the reform of supply side, consisting of health care services and pharmaceutical industry. However, there is in lack of relevant studies of investigating into the interactive matching progress, especially for low-and-medium income group.
Method

Data Collection
The survey was executed by the research group of Research on the Medical Service Demand and Service Mode Innovation of Medium and Low Income Group in China organized by Chinese Academy of Social Sciences at Miyun County, Beijing, from 15 – 30 August 2009. As the survey focused on the low-and-medium income group demand, the questionnaire was divided into five major parts: 1) household/ respondent’s socio-economic status, 2) household/ respondent’s disease profile, 3) household/ respondent’s medical service utilization, 4) household/ respondent’s medical expenditure and reimbursement status, and 5) decision-making process of medical service. Since the mobility of household members is very high, especially for rural areas, it is very difficult for our research team to identify our target population (medium-and-low income group). We adopted interviewer-snowball technique (using interviewers’ social networks to identify eligible households) and well-known community administration (using neighborhood organization’s information to find out some communities having higher proportion of low-and-medium households) to identify eligible households or eligible regions to create the sampling frame. Based on the sampling frame, we used probabilistic sampling method to build up our representative sample with 250 sample size.

Sample
According to table 1, the average and standard deviation of the age of the respondents were 47 and 12.4 respectively. Significant percentages were middle age (60%), aged 40 – 60, and female (> 60%), whereas, 30% and 10% were youth and elderly respectively. Most respondents were married (90%) and having secondary education or below (~90%). Most respondents’ occupations were agricultural labor (50%) and informal labor (20%). In the previous health care system, it is very hard for the Government to cover agricultural labors and informal labors. The percentage of households with 3, 4, and 5 people were 43.6%, 28%, and 30% respectively. Our sample shares similar characteristics of low-and-medium income households, like female-headed, relatively low educated and working as an agricultural or informal labors. Moreover, rural areas in China are also facing ageing issue, thus, the health care system in rural areas are needed to provide more geriatric services in near future.

Table 1. Sample description (sample size: 250)

<table>
<thead>
<tr>
<th>Gender</th>
<th>%</th>
<th>Age</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>37.2</td>
<td>18-39</td>
<td>29.6</td>
</tr>
<tr>
<td>Female</td>
<td>62.8</td>
<td>40-59</td>
<td>39.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60+</td>
<td>10.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th>%</th>
<th>Mental Status</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural labor</td>
<td>49.6</td>
<td>Married</td>
<td>90.8</td>
</tr>
<tr>
<td>Informal labor</td>
<td>20.6</td>
<td>Others</td>
<td>9.2</td>
</tr>
<tr>
<td>Economically inactive</td>
<td>8.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>21.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Household Register</th>
<th>%</th>
<th>Education</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>93.6</td>
<td>Primary or below</td>
<td>22.4</td>
</tr>
<tr>
<td>Urban</td>
<td>6.4</td>
<td>Secondary</td>
<td>66.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tertiary or above</td>
<td>11.2</td>
</tr>
</tbody>
</table>
Findings and Implications

Disease Profile
More than half households (139 out of 250), including either respondents or their family member, needed chronic care. Among these chronic patients’ households, significant proportions of households had patient(s) with hypertension, chronic pain (other than from arthritis), arthritis, high cholesterol, and heart disease. On the other hand, around 90% of households (219 out of 250) used acute care services in the last year and the major reasons for these household to use acute care were influenza, injury from accident and respiratory illness. About a quarter of households used medical services other than chronic or acute care in the last year, and the major type of medical service used by these household was routine body check.

Health-seeking Behavior
Based on the utilization frequency, chain drug store is the most popular health-seeking behavior, while, township health care centers and county hospitals are the second and third popular health-seeking behaviors respectively. From the results, we can see the importance of township and county health care system and we can discover the most important blind point in the whole health care system – chain drug store or pharmaceutical industry. According to our qualitative study, the reasons of the preference for chain drug store were cheaper drug prices and convenience. Moreover, based on the utilization frequency in the last year, the average uses of local western drug, propriety Chinese medicines, herbs and imported western drug were 24, 11, 2.6 and 0.4. The reasons for the preference for local western drug were much cheaper than the imported drug and more effective than herbs and proprietary Chinese medicines.

The most affected disease was influenza or the proportion of the respondents having influenza was around 80%. However, more than 40% of the respondents expressed that they or their family member would not seek medical advice for the latest acute disease, and the main reason for them not to seek medical advice is “not necessary and able to self-treat”. This finding echoed the other findings that the respondents relied heavily on chain drug store and local western drug (> 90% of the respondents having acute disease). As mentioned before, it is essential for the Government to supervise chain drug shops and pharmaceutical industry to increase the effectiveness and the efficiency of the health care system in rural areas. Moreover, it is also necessary for the Government to enhance the accessibility of township health care center and county hospital to promote the utilization rates and to integrate public health model, identified as one of the effective strategies for raising health care quality, into the health care system in rural areas.

The top three common chronic diseases were hypertension, chronic pain and arthritis. Nevertheless, similar to acute disease patient, around 40% chronic illness patients did not seek for medical advice and the primary reason not to seek medical advice (~50%) was “not necessary and able to self-treat”. On the other hand, among those chronic illness patients seeking for medical advice/ treatment, their major treatment options were county hospital, township health care center and hospital outside of their county, and the primary reasons for using their selected medical treatment were “good service”, “good facilities” and “convenience”. Almost all chronic illness patients regularly took pills prescribed essentially by county hospital and township health care center. As a result, it is necessary for the Government to consider how to integrate medical services providers and pharmaceutical industry together, especially regulation on price and utilization.

Household Income/ Expenditure and Medical Service Utilization
In the last year, the average household expenditure was around 15,000 Renminbi and the average household health expenditure was around 3,000 Renminbi or 20% of household expenditure. According
to table 2, we found that the lower income households (with less than 12,000 Renminbi) have similar percentage of medical expenditure to the higher income counterparts, but have lower percentage of medical service utilization, either acute disease or chronic disease. There is not only urban-rural health disparity, but also serious financial barrier to access health care services in rural areas.

Table 2. Household’s health expenditure and utilization of medical services

<table>
<thead>
<tr>
<th>Households</th>
<th>Average health expenditure</th>
<th>% having medical services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower income</td>
<td>7,671 1,631</td>
<td>21.3% 48.7% 66.7%</td>
</tr>
<tr>
<td>Higher income</td>
<td>22,109 4,468</td>
<td>20.3% 69.7% 74.6%</td>
</tr>
</tbody>
</table>

* p-value < 0.01 (there is a significant difference of household income levels in the proportion of having acute care)

Average annual drug expenditure was around 1,900 Renminbi and the major drug expenditure was for local Western drug (~ 60%). The impact of indirect health expenditure, including sick leave and transportation and catering cost incurred in seeking or receiving medical services, could not be undermined. The average household number of sick leave days was 19 days. We found that, among the estimated indirect health expenditure, the cost derived from sick leave was 646 Renminbi and the cost come from transportation and catering was 308 Renminbi. As a consequence, the health care reform may also lead to the reform of other social security systems, like disability allowance and employment benefit.

Sources of Medical Expenses

For the outpatient care, most households (~95%) were needed to pay for the expenses and more than 80% households paid for the expenses only by themselves. For the inpatient care, just around 60% households were needed to pay for the expenses, but only around 17% household paid for the expenses only by themselves. This situation might lead to the abuse of inpatient services but under-usage of outpatient services, or lowering the efficiency of the health care system.

For the drug expenditure, the proportion of households solely bearing the expenses on herbs was around 70%, but those proportions on local western drug, imported western drug and proprietary Chinese medicines were 45%, 55%, and 33% respectively. Apart from customers’ preference, the unfair drug subsidization mechanism to proprietary Chinese medicines and herbs may cause the situation that the development of Chinese medicine cannot keep pace with that of Western medicine.

Conclusion and Recommendation

From the sample profile and disease profile, we can expect that, accompanying with ageing population in rural areas, the proportion and the number of chronic illness patients will be increasing exponentially. As the chronic care is very expensive and there is no cure for any chronic illnesses, we can only think of preventing residents from having chronic illness or delay the deterioration of the chronic illness patients. For the benefit of minimizing the impact of chronic illness, the Government should introduce some proactive health management, such as smoking cessation policies/programs, substance abuse programs, taxation on unhealthy foods and unhealthy habits, and anti-pollution measures. Health education is another proved effective tool of promoting public health2, especially there is a high proportion of households not seeking for medical advice in their latest acute disease or chronic illness (~40%). Due to
reasonable proportion of households having routine body check (25%), routine body check should be
promoted or even subsidized by the Government, because routine body check can lead to early
identification and early treatment of chronic illness.
Expectedly, the two major factors for health care utilization are accessibility (including financial and
physical) and quality of health care system (including treatment, skills and facilities), but, accompanying
with the residents’ higher expectation of the Government, the public emphasizes much more quality
rather than accessibility. As drug prescription is an important income of most health service providers
in China and an important progress in medical treatment, we can expect that pharmaceutical
manufacturers and health care providers are interlocked and interdependent. The failure of drug price
regulation could be caused by such close relationship. In order to promote the quality of health care
system, there are two key concepts — consumerism (relevant measures: voucher, and cash and
counseling) and accountability (relevant measures: case mix model and quality indicator), which have
already been adopted in health care form in many Western countries for couple of years. Voucher
system is a well known tool for improving allocation efficiency and case mix is widely recognized as an
effective mean to increase the transparency and accountability of utilization. Therefore, some of these
measures, like case mix model, have widely been adopted in health care form in many Western
countries (for example US, UK, Germany, Italy, France etc) for couple of years in order to improve the
effectiveness and efficiency of medical resource allocation.
Last but not least, low income households have similar health expenditure proportion on total household
expenditure to their counterparts by not seeking medical advices. Reasonably, the government needs to
be more generous to lowering low income households’ out-of-pocket health expenditure. From our
study, we also found that indirect health expenditure occupied a significant proportion in health
expenditure. Probably, it is also necessary for the Government to review the whole social security
system, like health protection and employee protection; otherwise, only health care reform might not
reach the target or disadvantaged groups successfully and effectively.

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