MEDICAL INSURANCE AND HEALTHCARE UTILIZATION OF THE ELDERLY IN CHINA: EVIDENCE FROM A MULTILEVEL PERSPECTIVE

(extended abstract)

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RESEARCH BACKGROUND

China has made substantial progress in improving its medical insurance program during the recent decade. Since 2003, the New Cooperative Medical Scheme (NCMS) was launched in some rural areas first and then expanded quickly to the nationwide rural society by 2010. Similarly, the Urban Resident Basic Medical Scheme (UBMS) was piloted in 2007 in some urban areas and spread rapidly thereafter to provide health insurance for non-employed urban residents. Nevertheless, for the reason of limited financial resources and great size of potential enrollees, the health insurance program turns out to be of a relatively shallow, albeit wide, coverage. And this is especially the case in rural areas. The ongoing social medical insurance schemes are voluntary in enrollment and rely greatly on regional economic capability in funding. This gives rise to important variations in the feature of insurance coverage at both individual and regional levels (Brown & Theoharides, 2009), which is potential to induce disparity or inequality in health care behavior and health outcome, given the skyrocketing medical cost and the great prevalence of health care affordability limitation (so-called "*kanbing gui, kanbing nan*") in China (Eggleston, 2010; Lin et al., 2009; Wang, 2009; Wang et al., 2011).

It is unclear, to date, how and to what extent the medical insurance program help to relieve the medical cost burden in the country as a whole? And more specifically, how medical insurance resource affects individuals' health care behaviors? Is there any salient regional disparity in the impacts of medical insurance resources? The answers to these questions are relevant not only in evaluating the strength and weakness of the current health insurance system, but also in discovering its role in shaping the gap between health care need and utilization behavior in general.

The existing literature has paid some attention to the relevance of health insurance in individuals' health care utilization and health outcome. Yet, for the reason of the rapidly developing nature of the system itself (in terms of its coverage and detailed features), previous studies were tentative in suggesting the impacts of health insurance schemes (World Bank, 2009; Yi et al., 2009; Brown and Theoharides, 2009). In addition, for the data availability constraint, the existing findings were mainly

drawn from some selected regional data and not strikingly, they have arrived at somewhat contradictory findings regarding the impacts of insurance schemes. Interacted with great regional variations in demographic and socioeconomic traits, the great regional disparity of insurance schemes necessitates it to investigate the question more systematically from a national and region-comparative perspective, using the latest data.

In this study, we use data collected through the China Health and Retirement Longitudinal Study (CHARLS) in 2011 to examine how medical insurance resources affect various domains of individual health care behavior, including regular health check-up, inpatient and outpatient healthcare utilization, and self treatment practice. Our research will contribute to the existing literature from following aspects: First, the national survey data of CHARLS 2011, with large sample size and rich information on health care and health insurance resources, make it possible for the first time to investigate the relationship between medical insurance resources and healthcare behavior from both a national and a region-comparative perspectives. This is potential to throw light on the importance of regional disparities and to examine the validity of existing findings. Second, our analysis with the latest data available is expected to update existing knowledge about effects of the rapidly developing insurance system on individual healthcare utilization and public health. Third, compared with the previous studies, we examine broader domains of healthcare behaviors and explore unmet healthcare needs. This is expected to given a more comprehensive picture of the public healthcare situation.

DATA AND RESEARCH METHODOLOGY

The data used in this study are from the China Health and Retirement Longitudinal Study project conducted in 2011 (CHARLS2011). CHARLS2011 is the national baseline survey of CHARLS project, targeting at the elderly aged 45 and above who live in household. Multistage stratified probability sampling strategy is employed in the survey. In total, 150 county-level units were sampled in 28 provincial units, and around 17,500 respondents were selected randomly and interviewed. The

survey collected rich information on individuals' family background, socioeconomic status, health condition, health care, retirement and pension. To the special interest of current study, the variables measuring different features of medical insurance resources and health care behavior will be used in the analysis.

The outcome variables of this study include routine health check-up, outpatient care use, inpatient healthcare utilization, and self treatment. To specify, first, we use the timing of the latest physical examination, collected with the question "when did you take the last physical examination", to measure respondents' routine health check-up behavior. Secondly, outpatient healthcare use is measured jointly with the questions, in the last month, "have you been ill" and "have you visited hospital, a health worker or doctor for outpatient care". Thirdly, inpatient healthcare utilization is measured with the question, in the past year, "did a doctor suggest that you needed inpatient care but you did not get hospitalized". Finally, we use the question "how did you treat yourself during the past month" to measure respondents' self-treatment practice. Taken together, these variables are to depict extensive nature of respondents' health care utilization.

The key independent variables denote respondents' health insurance resources, specifically, whether a respondent is insured medically, and what type of insurance if any. They are constructed with the question "are you the policy holder/primary beneficiary of any of the types of health insurance listed below? (Urban Employee Medical Insurance, Urban Resident Medical Insurance, New Cooperative Medical Insurance, Urban and Rural Resident Medical Insurance, Other Medical Insurance, or No Insurance)" These outline the most important distinction in individuals' insurance resources. Examined from a region-comparative perspective, they are potential to throw light on detailed impacts of health insurance resources.

We use two-level logit models to analyze the relevance of health insurance resources in individuals' healthcare behavior and potential gaps between healthcare need and utilization. The cluster effect at county level, which has been outstanding in insurance financing and implementation, is examined particularly to illustrate the regional disparity in the focal relationship. To facilitate an investigation of the focal

relationship, we control for potential confounding factors statistically in the models. These control variables include respondents' age, gender, education, income, health condition, place of residence, and other factors alike.

PRELIMINARY RESULTS

Despite the rapid expansion of medical insurance schemes during the past decade, the insurance coverage still differs substantially at county level even today. It ranges from virtually 100 percent to less than 60 percent for the elderly aged 45 and above, as telling from the survey data. The majority of medically ensured respondents are covered by the New Cooperative Medical Scheme (NCMS), which accounts for nearly 70 percent in the sample.

The individual resource of medical insurance is significantly related with healthcare practices in the sample. On average, the respondents who have no health insurance are less likely to have routine health check-up regularly, less likely to use outpatient or inpatient health care, and they are also less likely to practice self-treatment for health concerns. Among those having various kinds of health insurance, individuals covered by NCMS are more likely to skip routine physical check-up, more likely to forgo outpatient care when needed, and also less likely to perform self-treatment for health. The net impacts of insurance resource on healthcare will be examined in detail in the multilevel models.

Table 1: Correlation between respondents' insurance resource and healthcare practices, (column percentage)

	Health Insurance Resource					
	None	UEMI	URMI	NCMS	URRMI	Others
Timing of last health check-up						
<=1 year	24.0	34.4	32.4	28.6	34.3	40.4
1~3 yrs	15.5	33.6	22.7	18.2	15.7	24.4
>3 yrs	60.5	32.0	44.9	**53.2**	50.0	35.2
Outpatient care last month						
no illness, no visit	79.7	76.8	74.4	72.4	74.8	74.1
had illness, visited	1.2	1.0	0.4	1.4	1.9	1.2

had illness, no visit	6.5	5.6	6.8	**7.4**	7.1	6.3
no illness, visited	12.6	16.6	18.4	18.8	16.2	18.4
Inpatient care last year						
no need, no care	91.8	84.4	85.2	87.7	90.0	85.2
had inpatient care	4.4	11.9	10.1	8.1	7.6	10.8
needed, but no care	3.8	3.8	4.7	4.2	2.4	4.0
Self treatment last month						
none	54.27	44.62	45.63	53.42	45.45	48.18
self treatment with medicine	42.26	47.04	49.24	42.91	52.15	41.99
health supplement/equipment	3.47	8.34	5.13	3.67	2.39	9.83
N.	1,134	1,746	722	12,255	210	906

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