

The Effect of Medical Insurance Outpatient Pooling Policy on Medical Service Utilization of Insured People: Evidence from CHARLS

OBJECTIVES

- In China, the proportion of outpatient visits at tertiary hospitals has been increasing, while the proportion of outpatient visits at primary health facilities has been decreasing in recent years.
- The implementation of the Medical Insurance Outpatient Pooling (MIOP) policy and increased reimbursement rates for outpatient services are crucial for promoting tiered medical treatment and improving healthcare efficiency.
- To analyze the impact of the MIOP policy on patients' healthcare-seeking behavior, providing policy insights for the realization of tiered medical treatment.

DATA

- We collected data from China Health and Retirement Longitudinal Study (CHARLS) 2018, policy documents of prefecture-level cities in China, and China City Statistical Yearbook 2019.
- As of 2018, in cities across China, the main medical insurance reimbursement policies for outpatient visits mainly use individual (family) accounts and outpatient pooling.
- Table 1 shows the implementation of MIOP policy we collected according to the cities covered by CHARLS in 2018.

Outpatient f	reimbursement ^F orm	City						
Personal (family) accounts (49 cities)		Linfen, Jiujiang, Jiamusi, Baoding, Baoshan, Lu'an, Xing'an League, Na nchang, Jilin, Zhoukou, Hulunbuir, Hohhot, Harbin, Siping, Dalian, An qing, Yichun, Yueyang, Chaohu, Pingdingshan, Guang'an, Zhangye, Xi nzhou, Enshi Tujia and Miao Autonomous Prefecture, Jingdezhen, Ch aoyang, Benxi, Guilin, Hanzhong, Cangzhou, Luoyang, Qingyuan, Puya ng, Jiaozuo, Yiyang, Shijiazhuang, Mianyang, Ziyang, Ganzhou, Chifen g, Yuncheng, Chongqing, Xilin Gol League, Jinzhou, Yangquan, Ansha n, Jixi, Huanggang, Qiqihar						
outpatient pooling (59 cities)	Reimbursement limits with fixed location (32 cities)	Chengdu, Qingdao, Nanchong, Liangshan, Meishan, Mianyang, Neijia ng, Linyi, Jinan, Binzhou, Weifang, Liaocheng, Zaozhuang, Lianyungan g, Xuzhou, Yancheng, Yangzhou, Bozhou, Suzhou, Huainan, Fuyang, C haozhou, Shenzhen, Jiangmen, Zhangzhou, Ningde, Fuzhou, Putian, B aoji, Weinan, Jingmen and Haidong	7130					
	Reimbursement limits without fixed locations (27 cities)	Suzhou, Hangzhou, Ganzi, Yibin, Ji 'an, Chuxiong, Lincang, Zhaotong, Qiandongnan, Qiannan, Suqian, Taizhou, Huzhou, Jiaxing, Lishui, Ning bo, Foshan, Maoming, Xiangyang, Pingliang, Lanzhou, Beijing, Shangh ai, Tianjin, Guangzhou, Yulin, Weihai and Zhengzhou	4944					

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METHODS

We used two-part model to handle the abundance of zero values that occur in describing the probability of healthcare-seeking behavior.

 $Pr(use_i = 1 | x_i, \alpha_i, \beta_i) = f(\alpha_i + \beta_1 pooling + \beta_i x_i + \varepsilon_i)$

 $ln(Y_i|use_i=1) = \beta_0 + \beta_1 pooling + \beta_i X_i + \mu_i$

- Due to the potential influence of residents' medical treatment choices on whether various cities implement outpatient pooling policies, endogeneity issues may arise.
- Therefore, we used the instrumental variable and propensity score matching (PSM) to address potential endogeneity issues for robustness test. The number of participants in urban basic medical insurance in the same year as the sample, relative to the registered population of the city at the end of the year, was chosen as the instrumental variable.

RESULTS

- The MIOP policy can improve the possibility of people choosing outpatient service and reduce the hospitalization rate.
- The MIOP policy will significantly improve the outpatient reimbursement treatment and attract more people to go to the outpatient clinic for medical treatment, so even if the security becomes greater, the total outpatient expenditure will increase.
- The MIOP policy will significantly reduce people's total expenditure on medical services by reducing the expenditure on hospitalization and self-diagnosis, so the burden of medical expenses will be reduced.

Table 2 Regression Results									
	Part I: Participation decision-making model			Part II: Quantitative decision-making model					
	Have outpatient service or not	Be hospitalized or not	Pay for medical services or not	Outpatient self-payment expenses	Inpatient self-payment expenses	Total medical self-pay expenses			
	(1)	(2)	(3)	(4)	(5)	(6)			
MIOP policy	0.157***	-0.008*	-0.115***	0.405***	-0.110*	-0.118***			
	(0.038)	(0.043)	(0.025)	(0.103)	(0.116)	(0.036)			
Control variables	yes	yes	yes	yes	yes	yes			
constant term	-2.396***	-3.740***	-0.306*	5.999***	6.746***	4.247***			
	(0.266)	(0.298)	(0.180)	(0.686)	(0.777)	(0.263)			
Obs.	11569	11569	11786	11569	11569	11786			
R ²	0.189	0.107	0.062	0.252	0.143	0.124			



- diagnosis and treatment for common ailments.



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Discussion

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After introducing instrumental variables, the core explanatory variable "whether outpatient pooling" remains significant for the explained variable, with unchanged parameter signs and similar parameter values, indicating the robustness of the baseline regression results.

Poster

code:

HPR34

We also employed PSM to address selection bias in the observational data, verifying the robustness of the above conclusions. Figure 1 illustrates the matching results. After reconducting the baseline regression with the matched sample, the results remain robust.

Figure 1

Subsample analysis revealed heterogeneity between urban and rural residents, as well as individuals aged above and below 60. MIOP policy can further promote the elderly aged 60 and above who are prone to chronic diseases and residents with non-rural hukou to seek medical care, reduce the self-payment expenses for medical treatment.

Additionally, When the MIOP policy in some pilot cities didn't have a deductible or ceiling, and had a higher reimbursement percentage, it provided better help for medical treatment diversion, so as to better realize the goal of graded diagnosis and treatment.

CONCLUSIONS

The MIOP policy can effectively enhance the probability of local residents going to outpatient service and reduce the probability of going to hospital, and there is a substitution relationship between residents' demand for inpatient service and outpatient service.

Moreover, it plays a role in reducing insurers' burden of medical expenses. To refine fund pooling for outpatient services, the deductible should be eliminated, the ceiling should be raised, and the quality of primary health facility services should be improved.

Policy implications: Enhance primary medical support systems to facilitate primary-level