How did the Urban and Rural Resident Basic Medical Insurance Integration Affect Medical Costs? ——Evidence from China

HPR57

C. LIU [1], Q. SU [1], M. WANG [1], HZ. XING [1] and Y. KONG[1]

1 College of Economics and Management, Nanjing Agricultural University, Nanjing, Jiangsu, China

INTRODUCTION

Medical insurance is a social security system established to alleviate the risk of individual illness, and is of great significance in preventing poverty from being caused by illness and returning to poverty as a result of illness. The three basic medical insurance systems that have long existed in China, including basic medical insurance for urban workers, new rural cooperative medical care and basic medical insurance for urban residents, have to some extent alleviated the problems of 'expensive' and 'difficult' access to medical care. However, for urban and rural residents, due to the difference in the dual economic system, the medical insurance system between urban and rural areas is characterized by fragmentation, and there is a large difference in the level of treatment between urban and rural areas. In 2016, the Chinese government established the urban and rural residents' medical insurance (URRBMI) integration system, with the aim of coordinating the catalogue of medical insurance and the level of treatment between urban and rural areas, and increasing the use of medical resources for rural residents, in order to reduce the urban-rural disparity, and to promote social medical justice. However, in the course of policy practice, URRBMI integration has not effectively alleviated the medical costs of urban and rural residents, and the reasons behind this may be related to the release of medical demand and moral hazard. Therefore, it is necessary to explore the mechanism of urban-rural residents' medical insurance integration on residents' medical costs, in order to better improve China's medical insurance system.

OBJECTIVE

The purpose of this paper is to assess the policy performance of China's implementation of medical insurance for urban and rural residents, including exploring the impact of the urban-rural medical insurance integration on the utilization of healthcare resources and healthcare costs of Chinese residents and explaining it from the perspectives of both demand release and moral hazard.

METHODS

This study utilizes China Health and Retirement Longitudinal Study (CHARLS) data from 2013, 2015, 2018, and 2020, employing Fixed-effects difference-in-differences model（Fixed-effects DID）and Propensity Score Matching difference-in-differences model（PSM-DID） methods to investigate the impact of China's URRBMI integration policy on medical costs for urban and rural residents.

$$U_{it} = \beta_0 + \beta_1 DID_{it} + \beta_2 Treatment_i + \beta_3 Post_t + \sum_m \alpha_m X_{it}^m + \lambda_{it} + \mu_{it}$$

The dependent variable U_{it} it is the healthcare service utilization or medical costs of individual i in period t, including outpatient OOP costs, inpatient OOP costs, outpatient visits, and inpatient visits as alternative variables.

RESULTS

Impact of URRBMI integration on medical resource utilization and medical costs

Table 1. Impact of URRBMI integration on healthcare resource utilization and medical costs

Variables	DID					Fixed Effects Model				
	Outpatient visits	Inpatient visits	Outpatient OOP costs	Inpatient OOP costs	Medical expenditure	Outpatient visits	Inpatient visits	Outpatient OOP costs	Inpatient OOP costs	Medical expenditure
DID	0.000	0.019***	0.152**	-0.001	0.261	0.000	0.019*	0.221**	0.247**	1.678***
	(0.001)	(0.005)	(0.074)	(0.086)	(0.551)	(0.002)	(0.011)	(0.085)	(0.120)	(0.629)
Personal characteristic	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Health characteristics	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Health awareness	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Income characteristics	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Time effect	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
Region effect	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
Observations	21047	21033	1710	1266	4676	21060	21046	1714	1272	4683
R-sq	0.037	0.077	0.033	0.087	0.033	0.038	0.078	0.141	0.228	0.044

Note. *, **, *** corresponding to p values ≤ 0.10, ≤ 0.05 and ≤ 0.01, respectively . 95% confidence interval reported in brackets.

Sources of increased medical costs: demand release or moral hazard

Table 2. Impact of URRBMI integration on medical and other expenditures of different income groups

Variables	Lower middle income group			High income group		
	Outpatient costs	Inpatient costs	Percentage of other consumption	Outpatient costs	Inpatient costs	Percentage of other consumption
DID	0.093	0.257*	-0.049***	0.409***	0.096*	0.035
	(0.129)	(0.155)	(0.017)	(0.141)	(0.120)	(0.018)
Personal characteristic	YES	YES	YES	YES	YES	YES
Health characteristics	YES	YES	YES	YES	YES	YES
Health awareness	YES	YES	YES	YES	YES	YES
Income characteristics	YES	YES	YES	YES	YES	YES
Time effect	YES	YES	YES	YES	YES	YES
Region effect	YES	YES	YES	YES	YES	YES
Observations	876	671	2959	853	657	3070
R-sq	0.122	0.147	0.125	0.199	0.299	0.148

Note. *, **, *** corresponding to p values ≤ 0.10, ≤ 0.05 and ≤ 0.01, respectively . 95% confidence interval reported in brackets.

Endogeneity test for moral hazard

Table 3. Impact of URRBMI integration on moral hazard

Variables	Outpatient OOP costs	Inpatient OOP costs	Medical expenditure
DID	0.237***	0.282*	0.384***
	(0.085)	(0.152)	(0.076)
Personal characteristic	YES	YES	YES
Health characteristics	YES	YES	YES
Health awareness	YES	YES	YES
Income characteristics	YES	YES	YES
Region effect	YES	YES	YES
Time effect	YES	YES	YES
Observations	1577	927	4593
R-sq	0.145	0.303	0.069

Note. *, **, *** corresponding to p values ≤ 0.10, ≤ 0.05 and ≤ 0.01, respectively . 95% confidence interval reported in brackets.

Impact of URRBMI integration on preventive behaviors

Table 5. Impact of URRBMI integration on health awareness and preventive behaviors

Variables	Physical exercise	Cigarette smoking	Regular medical checkups
DID	0.193***	-0.357***	0.060***
	(0.019)	(0.012)	(0.014)
Personal characteristic	YES	YES	YES
Health characteristics	YES	YES	YES
Health awareness	YES	YES	YES
Income characteristics	YES	YES	YES
Region effect	YES	YES	YES
Time effect	YES	YES	YES
Observations	17583	21057	21047
R-sq	0.07	0.322	0.077

Note. *, **, *** corresponding to p values ≤ 0.10, ≤ 0.05 and ≤ 0.01, respectively . 95% confidence interval reported in brackets.

Impact of URRBMI integration on utilisation utilization of different types of medical resources

Table 4. Impact of URRBMI integration on type of medical institutions and distance to medical institutions

Variables	Outpatient type	Inpatient type	Distance to medical institutions
DID	0.163***	0.049*	29.864***
	(0.049)	(0.025)	(9.072)
Personal characteristic	YES	YES	YES
Health characteristics	YES	YES	YES
Health awareness	YES	YES	YES
Income characteristics	YES	YES	YES
Region effect	YES	YES	YES
Time effect	YES	YES	YES
Observations	3715	2791	2685
R-sq	0.100	0.057	0.022

Note. *, **, *** corresponding to p values ≤ 0.10, ≤ 0.05 and ≤ 0.01, respectively . 95% confidence interval reported in brackets.

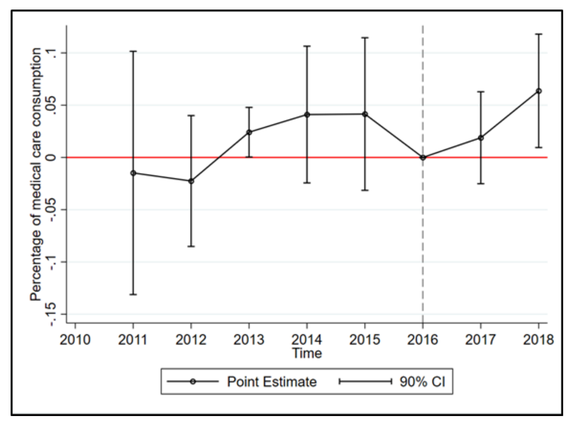

Fig 1. Equilibrium trend test of medical costs

CONCLUSIONS

(1) URRBMI integration increases outpatient OOP costs, inpatient OOP costs, and total medical consumption, but it also releases the population's demand for medical care, which is meaningful at the initial stage of policy implementation.

(2) The sources of the increase in medical costs are the release of medical demand and moral hazard. Specifically, for the low- and middle-income groups, the integration of URRBMI triggers an increase in medical costs mainly through the release of demand. For insured persons in the high-income group, URRBMI integration increases medical costs by triggering moral hazard issues.

(3) URBMI integration changes the medical resource utilization behavior of the population, prompting the population to utilize higher-level medical resources more than primary care resources.

(4) In addition, integration has a positive impact on residents' preventive medical care.

CONTACT INFORMATION

CHEN LIU

PhD candidate

School of Economics and Management, Nanjing Agricultural University, 1 Tongwei Road, Xuanwu District, Nanjing, Jiangsu, China

Email: 2020206013@stu.njau.edu.cn