Intergenerational Monetary Transfers and Health Care Service Utilization among Older Adults in Rural China

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Abstract

Affordable health care for older people remains a public policy concern in rural China. Despite the development of a rural health care insurance scheme, outpatient visits are still mostly paid out-of-pocket by older patients. In this investigation we ask whether remittances from adult children allow older adults to use medical care when needed. We used a random sample of older adults living in Anhui Province (N = 1,050) to examine whether net monetary transfers enabled older adults in poorer health to use outpatient services that included physicians, nurses, and "barefoot" doctors. Poisson regression and longitudinal fixed effects regression revealed an interaction between net monetary transfers from children and self-rated health. Among older people in worse health, transfers increased the frequency with which medical services were used. We conclude that remittances allow older adults in rural China to get needed services even in the presence of universal health insurance.

In China nearly 60 percent of older adults live in rural regions (China National Committee on Aging 2006). Low incomes, lack of a pension system, and sparse formal support services have combined to create severe hardship for many rural elders (Joseph and Phillips 1999; Li et al. 2004). Adult children are the primary sources of support for the aged in rural China and about two thirds of older parents receive some financial assistance from their adult children (Chen and Silverstein 2000; Zimmer and Kwong 2003, 2004).

Health care also represents a challenge for rural elders despite the development of universal health insurance, the New Cooperative Scheme Medical Insurance (NCSMI), a rural health insurance program, established in 2003 and expanded nationally in 2010. Although outpatient coverage of the 50+ population is high (>90%), reimbursement rates are fairly low returning less than 10% of costs (Strauss, et al., 2012). The program has been criticized as having too small of a benefit to have a significant effect on rural households' out-of-pocket spending (Wagstaff et al. 2007). Thus, use of outpatient health care is still a private pay affair in rural China.

Escalating health service costs have left rural Chinese residents under-served in meeting their acute health care needs (China Ministry of Health 2004) yet there has been an increase in the variety of outpatient services available to those in rural areas including practitioners of traditional Chinese medicine, village doctors (who are less intensively trained), medical practitioners in rural private health clinics, and physicians trained in Western medicine. Rural residents generally perceive traditional Chinese practitioners,

village doctors, and medical practitioners in rural private health clinics as the best choices for the treatment of minor illness because they are convenient and relatively inexpensive. Use of these services—overwhelmingly paid for out of pocket—may represent a financial burden to some older rural individuals who have few resources and little personal income.

We investigate the question of whether economic transfers from children allow older parents to visit health care personnel more frequently. Thus, in a largely fee-for-service health care environment where adult children are the main economic providers to rural elders, we predict that *monetary transfers from children will increase health care use most rapidly when the health needs of older adults are greatest.*

METHODS

Sample

The data used in this investigation derive from 2006 and 2012 waves of the Longitudinal Study of the Elderly in Anhui Province China (Silverstein et al. 2006). This study focused on family relations, intergenerational transfers, physical health, and psychological well-being of older adults living in Anhui Province, a relatively poor province located in eastern China (28th lowest per capita gross domestic product out of 31 Chinese provinces, autonomous regions, and municipalities) (National Bureau of Statistics of China 2008). The sample was derived from the rural regions of Chaohu, a city of 141,000 located on the northern bank of the Yangtze River in the central part of Anhui province. This region was chosen specifically for its relatively high density of older adults (12 percent of its population is 60 years of age and older). Even more

important are the high levels of out-migration by working-age adults to neighboring cities such as Hefei, Nanjing, and Shanghai. Most of the migrating workers remitted money home, which constitutes a significant component of intergenerational monetary transfers.

The baseline survey was conducted in April 2001. A stratified multistage sampling method was employed to select potential respondents within 72 randomly selected villages within 6 rural townships in the Chaohu region, resulting in a sample of 1,715 individuals aged 60 and older. Trained interviewers conducted the baseline survey and four follow-up surveys in 2003, 2006, 2009, and 2012. Interviews were conducted face-to-face, guided by a structured questionnaire. A standard back-translation method was used to ensure the accuracy of the Mandarin translation.

We use data from the 2006 wave in the present study because it was the first survey to contain a module of detailed questions about health service utilization, The 2006 wave was conducted with 1,067 respondents representing a 93% participation rate among individuals eligible to be surveyed. After a short cognitive exam was used to exclude 17 individuals deemed too cognitively impaired to provide reliable information, the effective sample size was 1,050. In 2012, 850 respondents were surveyed again with similar content that included replicated questions about health care use.

Measures

The outcome variable el was the number of times outpatient services were used in the past 12 months. Outpatient services were defined to include physicians, nurses, traditional healers, village ("barefoot") doctors, and community clinics. This variable

ranged from zero to 60 and averaged 3.2 visits with a median of 2.0; 32.7% reported no visits.

Net monetary transfers were defined as the log of the RMB (Chinese currency) value (+1) of the difference between monetary transfers received from offspring and monetary transfers provided to offspring, each assessed over the previous 12 months. Transfers represented the total value of cash, goods, and food summed across all adult children.

We use self-rated health as the main indicator of need, as it is shown to strongly predict physician visits and hospitalization (Menec and Chipperfield, 2001). As a self-appraisal, self-rated health is often more indicative of general well-being than a specific diagnosis of a chronic or disease and is identified by the World Health Organization as one of the main components of successful aging and quality of life in old age (Helmer et al. 1999). Self-rated poor health was measured by asking "How would you rate your general health right now?" with four response options that included excellent, good, fair, and poor. This variable was coded from 1-4 with higher scores signifying worse self-rated health.

We use the behavioral model of health service use developed by Andersen (Andersen, 1995) who organized predictors of health service use based on predisposing characteristics, enabling resources, and need factors. Predisposing controls included age (in years), gender (female=1), marital status (not currently married=1), level of education (some formal education=1), occupation (non-agricultural work=1), and household income (log of the RMB value +1). Additional enabling variables controlled included co-

residence with and proximity to children, number of children, and instrumental support from children. Need variables controlled included number of chronic diseases, functional health difficulties, and depressive symptoms.

Analytic strategy.

We use Poisson regression analysis because the dependent variable represents a count of discrete events and is not normally distributed (Long 1997). We first estimate a cross-sectional model in 2006 and then use fixed effects regression to estimate change in health care use between 2006 and 2012 as a function of change in the value of intergenerational transfers and self-rated health.

RESULTS

Controlling for covariates, the interaction term between self-rated health and net monetary transfers was statistically significant (see last equation in Table 2). This result implies that economic support from adult children enabled less healthy parents to use more outpatient care. We illustrate this relationship in Figure 1. The patterns of adjusted means indicate, the positive relationship between worsening self-rated health and outpatient service use was stronger among older adults who received more net transfers compared to those who received fewer net transfers. The results indicate an enabling effect for those in need: when health is poor, transfers from children most enhance the amount of health care visits.

----------INSERT FIGURE 1 ABOUT HERE----------

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In order to test the robustness of the above finding, we used a fixed effects differencing approach to model the interactive relationship in longitudinal data over a six year period. The interaction of interest was statistically significant and the predicted values are shown in Figure 2. Similar to the cross-sectional results, only among older adults with worsening health did increases in intergenerational transfers elevate use of health care services.

DISCUSSION

Based on the consistency of our findings, we conclude that adult children's monetary support to older parents serves an important enabling function that enhances their parents' use of health care services when needed. It is important to keep in mind that some adult children may pay for their parents' medical bills directly instead of providing them with monetary transfers. Nevertheless, these analyses show that adult children are important social insurance mechanisms and that remittances allow older adults in rural China to receive needed services in the presence of universal but poor health insurance coverage.

Providing adequate health care services to China's growing older population has become a critical concern facing Chinese policy makers. The development of even a marginally more generous health care insurance scheme along with the continued involvement of family members as providers of supplemental resources may be the best

hope for meeting the health care needs of the rapidly expanding elderly population in China.

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Table 1

Descriptive Statistics with Outpatient Service Use for a Sample of Rural Chinese Elders (*n* = 1,050)

Variable (Range)	Percent / *M* (*SD*)	Pearson *r* (χ^2 / t) Outpatient Service Use[a]
Outcome variable		
Outpatient service use (0–60)	2.9 (4.8)	
Predisposing variables		
Age (62–94)	74.7 (6.6)	-.015
Gender (0–1)		.066*
Male	48.4%	
Female	51.6%	
Marital status (0–1)		-.018
Married	49.2%	
Not currently married	50.8%	
Education (0–1)		-.018
None	72.4%	
Some formal education	27.5%	
Occupation (0–1)		.050
Non-agricultural work	6.8%	
Agricultural work	93.2%	
Income (log + 1) (0–4)	1.6 (1.6)	-.028
Enabling variables		
Number of children (0–10)		.086*
4 or fewer	62.8%	
More than 4	37.2%	
Proximity (0–1)		.066*
At least one adult child living in the same village	42.5%	
No children living in the same village	57.5%	
Co-residence with adult children (0–1)		-.022
Not living with children 16 or older	62.1%	
Living with children 16 or older	37.9%	
Instrumental support (0–1)		.165*
No	35.6%	
Yes	64.4%	
Net monetary transfers (log + 1) (0–4)	2.1 (1.2)	.042
Need variables		
Self-rated health (0–3)		.241*
Excellent	8,1%	
Good	17.1%	
Fair	44.8%	

Poor	30.0%	
Functional health difficulties (0–15)	6.9 (7.6)	.180*
Number of chronic diseases (0–8)	1.8 (1.4)	-.010
Depression (0–18)	6.9 (4.0)	.152*

*$p \leq .05$.
[a]Calculated for variables included in analysis.

Table 2

Results of Poisson Regression

Type	Variable	Model 1	Model 2	Model 3	Model 4	LR Test ($\Delta\chi^2/\Delta df$)[a]
Predisposing	Age (years)	–.01*	–.01*	–.02*	–.02*	
	Gender (1=Female)	.25*	.26*	.15*	.15*	
	Marital status (1 =Not married)	–.14*	–.01	.17*	.17*	
	Education (years)	.02	–.01	.07	.07	
	Occupation (1=agricultural)	.29*	.35*	.36*	.35*	
	Income (log + 1)	–.06*	–.08*	.03	.03	
Enabling	Number of children		.09*	.10*	.10*	
	Proximity (1=has child in village)		.21*	.23*	.23*	
	Co-residence (1= lives with child)		–.09	–.08	–.09	
	Instrumental support (1=receives from child)		.74*	.45*	.46*	
	Net monetary transfers (log + 1)		–.03	.02	.05	279.03 (5)*
Need	Self-rated health			.44*	.31*	
	Functional health difficulties			.01*	.01*	
	Number of chronic diseases			.01	.01	
	Depression			.02*	.02*	340.16 (4)*
Interaction	Net Monetary Transfers (dichotomized) × Self-Rated Health				.06*	
Pseudo-R^2		.013	.071	.149	.149	

*$p \leq .05$.
[a]Likelihood–ratio test (assumption: A nested in B).

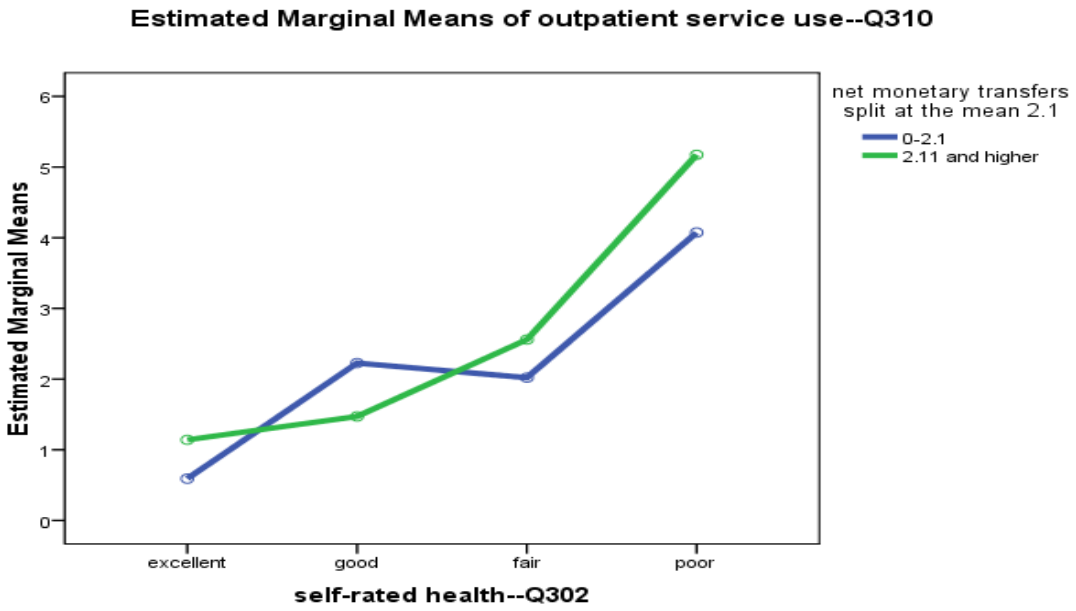

Figure 1. Interaction effect of net monetary transfers and self-rated health in 2006.

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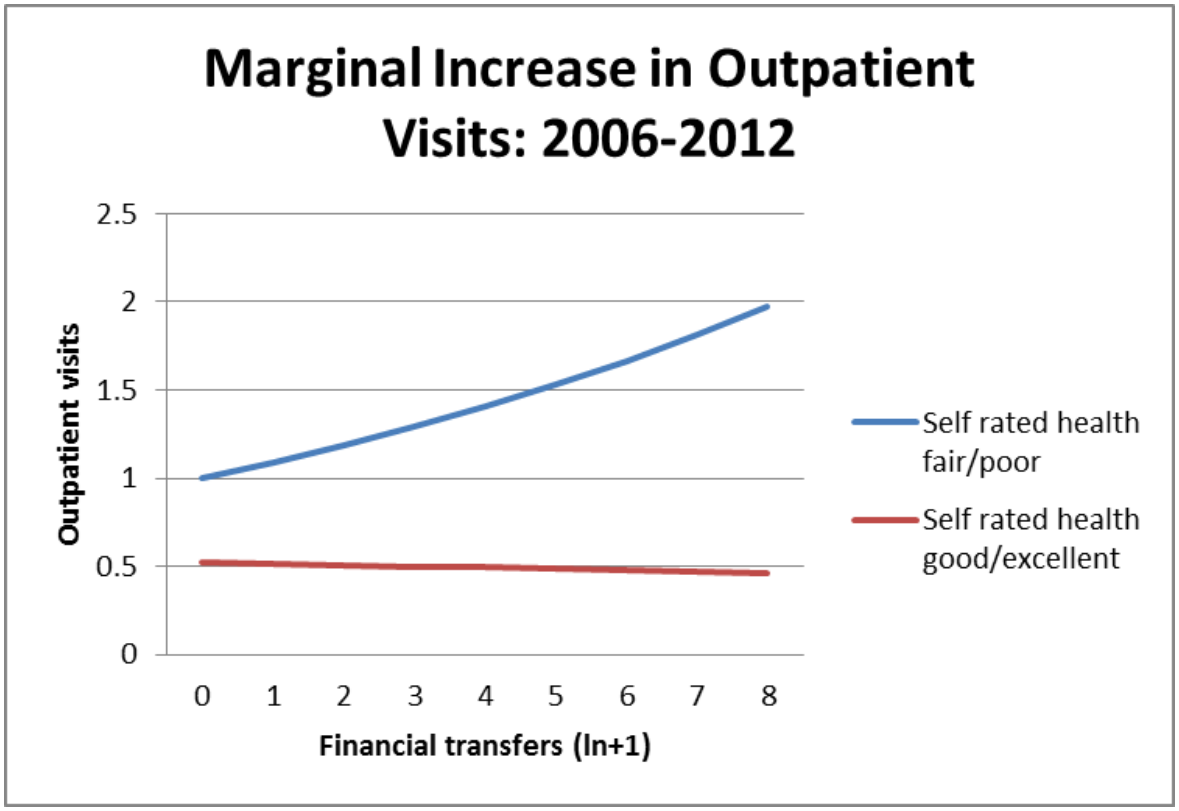

Figure 2. Fixed effects regression 2006-2012 showing predicted values for change in outparient visits as a function of change in financial transfers and self-rated health.