

The relationship between home personal assistance and health care utilization

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Research Question: Were there differences in utilization of outpatient, inpatient, dental services between elderly people with functional limitations who received paid personal assistance versus did not? Among those who did, what effect did personal assistance have on utilization?

Background

- In 2008, South Korea created the Long-Term Care Insurance program (LTCI) for the elderly, supplemented by Care Service for the Elderly, a program for low-income frail elders.
- While use of home services is encouraged as cost-saving in South Korea and other countries, there is mixed evidence on effects of paid care on elderly health care utilization.

Methods

- Data source: Korean Longitudinal Study of Aging (KLoSA) Wave 6 (2016)
- Study population: 945 survey respondents aged 45 + with 1+ difficulties in activities of daily living (ADL) or instrumental activities of daily living (IADL)
- Study design:
 - Cross-sectional analysis of those who received paid personal assistance (n=128) vs controls (n=256) propensity score matched using age, gender, ADL/IADL, and whether they live alone
 - Outcomes: health care utilization rates in past 2 years (outpatient visits, hospitalizations, days in hospitalization, dental visits, oriental clinic visits)
 - Sub-analysis of cohort using multivariate linear regressions adjusted for matched characteristics
 - Predictor: # of days per month of paid personal assistance received
- Survey sampling weights used in all analyses

Results

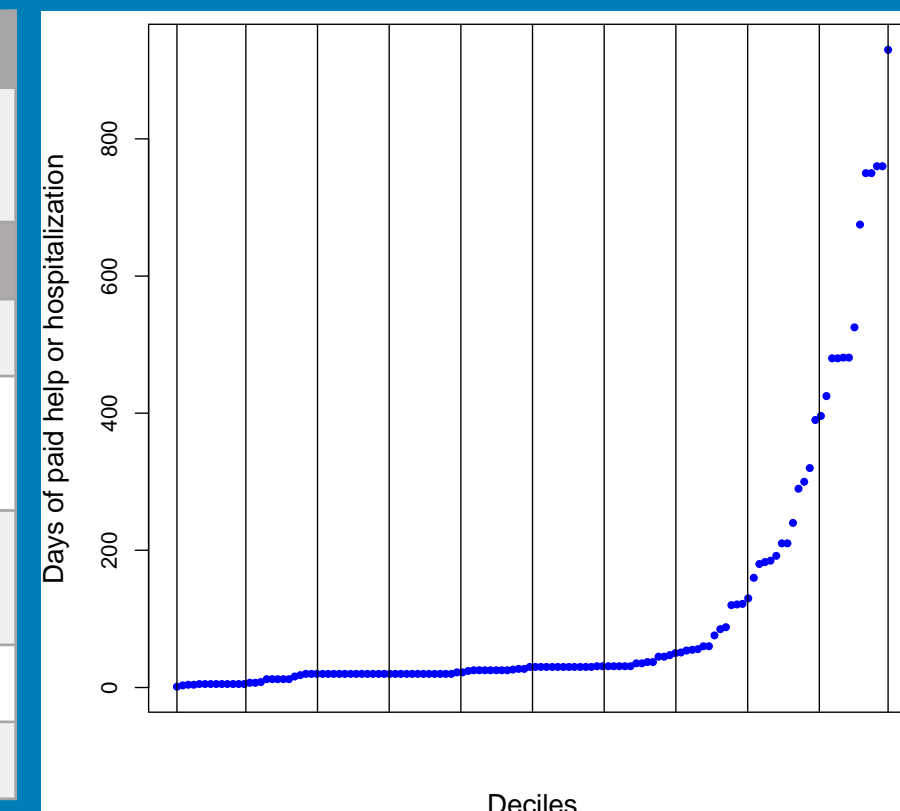
Table 1. Characteristics and outcomes of cohort vs matched controls

	Cohort	Control	p-value
N	128	256	
Age (mean)	79	80	0.828
% Female	68.8%	64.6%	0.522
% Lives alone	11.9%	12.3%	0.922
ADL/IADL (mean)	10.5	9.5	0.052
Metropolitan area	30.2%	44.8%	*0.023
Medical Aid	30.8%	10.9%	*0.001
Using LTCI	25.3%	2.6%	*<0.001
Using CSE	25.7%	2.5%	*<0.001
Utilization (mean)			
# outpatient visits	18.2	22.1	0.218
# hospitalizations	0.5	0.5	0.747
Days in hospitalization	88.4	30.5	*0.003
# dental visits	0.3	0.6	0.113
# oriental medicine clinic visits	2.0	9.1	0.268

Table 2. Mean/SD of days/month of paid help received in 2016 and linear regression estimates of its effect on outcomes (n=128)

Predictor	Mean	SD			
Days/month of paid help	21.0	9.5			
Outcomes	β	SE	p-value		
# outpatient	-0.1	0.2	0.426		
# hospitalization	0.01	0.01	0.056		
Days in hospitalization	5.4	1.7	*0.002		
# dental	-0.03	0.03	0.299		
# oriental	-0.2	0.1	0.073		

Figure 1. Decile distribution of days/month of paid help plus days in hospitalization in past 2 years for cohort (n = 128)



Main Findings

- Half of those who received paid help in 2016 were LTCI or CSE enrollees.
- There was no significant difference in health care utilization except that the number of days in hospitalization was higher in those that received paid help compared to their matched controls.
- Within the cohort, the amount of paid help received was positively associated with days of hospitalization.
- The distribution of days of hospitalization plus days of paid help (per month) was dramatically skewed, with almost all taking place in the last decile. The same cross-sectional analysis without the last decile showed no difference in hospitalization between the remaining cohort and control.

The number of days in hospitalization was higher for those that received paid help compared to the controls. This finding was limited to the 10% of individuals with the most days in hospitalization and paid help.

Limitations

- Limited generalizability due to small sample size
- Despite propensity score matching, cohort had greater degree of functional limitation (+1-pt ADL/IADL) than control
- Variations in quality of personal assistance or types of service received are unknown

Implications

- For the most frail elderly, provision of paid home care does not influence utilization of health care services.
- Among elderly with paid home care, there is a small subset with extended hospital stays. Initial extended hospitalization may be a useful marker to identify those who should be provided comprehensive assessment.