Access to Transportation and Primary Care Physician Visits in an Elderly, Rural Population: The MoVIES Project

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Abstract

Objective: To determine if independent access to transportation predicts frequency of primary care physician visits among the rural elderly examined in the Monongahela Valley Independent Elders Survey (MoVIES) project.

Design: The MoVIES project was a15-year, community-based epidemiological survey of elderly people living in Pennsylvania's Monongahela Valley, a rural, non-farm area with a large elderly, blue-collar population. Taking the data from the MoVIES project, we used the logistic regression model and multivariate analysis to explore associations between the outcome variable (number [0-5; >/=6] of visits to primary care physician visits over the past year) and a number of predictor variables including independent access to transportation (main predictor).

Results: Multivariable analysis of this data demonstrates that elderly people in this sample who live alone, are transportation dependent, receive home health care, and visited the ER within on year of the survey visit their primary care doctors more frequently.

Conclusions: Use of health care services is related to greater dependence and disability and not to transportation independence.

Background

- Fifty percent of non-drivers >65 stay home on any given day due to no transportation; 15% of them make fewer trips to their doctors (1).

- Lack of transportation is often cited by rural elderly as reasons for not accessing care (2).

- Forty percent of older, rural people have no access to public transportation (3).

- Twelve percent of US towns with less than 2,500 people have public transportation (4).

- When surveyed, rural elderly people place the highest value on ER and primary care services (1).

Methods

We completed secondary analysis of cross-sectional data collected through the MoVIES project, an epidemiological survey of an age-stratified, random community sample of 1,296 individuals (those without missing data for key variables) aged 65 and older. The primary outcome variable – the number of primary care visits during the preceding year – was dichotomized as 0-5 or greater than or equal to 6 self-reported visits.

Predictor variables examined included independent access to transportation, other service use during the preceding year (ER visits, home health and social services), income, driving status, living arrangements, instrumental activities of daily living, availability of help with chores, and frequency leaving home.

We used simple logistic regression models to explore univariable associations, and multiple logistic regression models for the multivariate analyses, controlling for age, sex, and education. Results are reported as odds ratios (OR) and 95% confidence intervals (CI).

Results

Variables Associated with Number of Primary Care Physician Visits Over the Past Year (0-5 vs >5)

Predictor Variables	Univariable			Multivariable		
	OR*	95% CI†	p	OR*	95% CI	p
Transportation Dependent	2.15	1.52 – 3.06	<0.000	2.10	1.45 – 3.04	<0.000
Living Alone	0.68	0.48 – 0.96	0.027	0.55	0.39 – 0.79	0.001
ER Visits in Last Year	3.26	2.31 – 4.61	<0.000	3.05	2.12 – 4.38	<0.000
Home Health Visits Last Year	2.75	1.79 – 4.23	<0.000	1.79	1.13 – 2.84	0.014

*OR = Odds Ratio
†CI = Confidence Interval

In univariate analyses, primary care visits were found to be associated significantly (p <0.001) with being transportation dependent, living alone, income <$20,000 annually, not receiving regular help, leaving the home no more than weekly, needing assistance with telephone use, shopping, walking, visits to the ER, and home health visits during the preceding year.

In multivariable analyses, variables associated independently with primary care visits were transportation dependence (OR: 2.1, CI: 1.45 – 3.04), living alone (OR: 0.55, CI: 0.39 – 0.79), emergency department visits in the last year (OR: 3.05, CI: 2.12 – 4.37), and home health services (OR: 1.79, CI: 1.13 – 2.84).

Conclusions

Primary care physician visits for older adults in our sample are more frequent among those that are transportation dependent, live alone, visited the local ER within the last year, and receive home health services. These data suggest that greater use of services is related to greater dependence and disability, and not to independence of transportation.

References

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