

Chronic Condition Predictors of Emergency Room Expenditures Among Uninsured Americans Aged 45-64

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Background and Significance

When strategizing how the U.S. can control Medicare costs in the future, policymakers and researchers focus their attention on middle-aged adults and specifically on the uninsured population.¹ As the literature well documents, lacking health insurance is a major barrier for access to care, and as a result, the uninsured are more likely to have unmet medical needs.^{1,2} Since chronic health conditions among the uninsured aged 45-64 are likely to create high costs for Medicare when these individuals turn 65, employers and state governments are working to create plans to cover the uninsured in hopes of reducing future costs.^{3,4} Efficient prevention and management campaigns need to be data-driven and targeted toward the chronic conditions among uninsured, middle-aged Americans that are associated with significant increases in expenses.

Purpose

- Purpose: To explore which chronic conditions are associated with emergency room expenditures among uninsured people aged 45-64 living in the U.S.
- This knowledge will be used for the purpose of prioritizing coverage of preventive and treatment services.

Methods

- Data Source: 2012 Medical Expenditure Panel Survey
- Sample: U.S. civilian, non-institutionalized population; N=1102
- Independent Variables: Asthma, back problems, cancer, cardiovascular disease (CVD), diabetes, kidney disease, mental disorders, pneumonia, skin problems
- Dependent Variable: Total annual emergency room expenditure
- Confounding Variables: BMI, gender, education level, geographic region, household income, marital status, race/ethnicity, smoking
- Analytical Method: Tobit regression

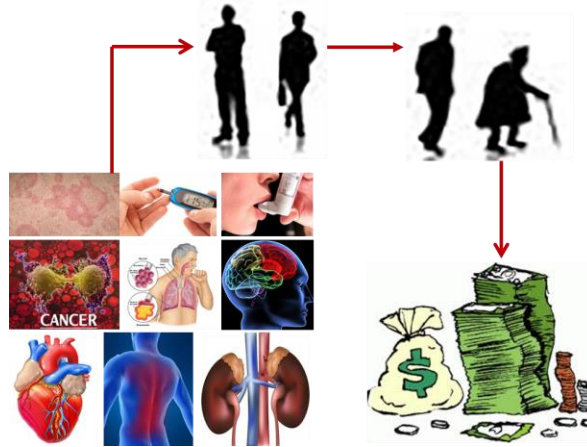


Figure 1: ER Expenditures

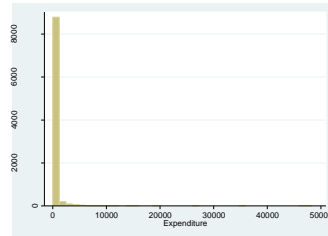


Figure 2: Non-Zero ER Expenditures

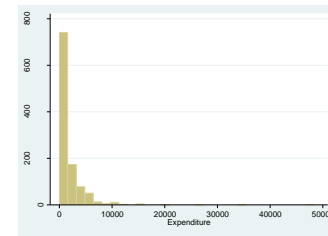


Table 1 Tobit Regression Model of ER Expenditures for the Uninsured, Age d45-64

Chronic Condition	Coefficient	Standard Error	t	P > t	[95% Confidence Interval]	
Asthma	1145.51	1016.62	1.13	.260	-849.01	3140.03
Back Problems	3845.49	1085.67	3.54	.000	1715.50	5975.47
Cardiovascular Dis	2544.04	834.69	3.05	.002	906.46	4181.62
Diabetes	2222.17	1064.88	2.09	.037	132.97	4311.37
Kidney Disease	4410.91	1985.45	2.22	.026	515.63	8306.19
Mental Disorders	1536.26	953.26	1.61	.107	-333.95	3406.46
Pneumonia	5288.27	3933.69	1.34	.179	-2429.29	13005.82
Skin Problems	496.21	1681.55	0.30	.768	-2802.85	3795.27

Results

Table 1 provides the results of the Tobit regression. Back problems ($\beta=3845.487, p=.000$), cardiovascular disease ($\beta=2544.039, p=.002$), kidney disease ($\beta=4410.912, p=.026$), and diabetes ($\beta=2222.17, p=.037$) were found to be significant contributors to ER expenditure. There were not enough uninsured cancer patients aged 45-64 visiting an ER to generate results.

Conclusion

ER expenditure signals an inefficient use of health care resources, and ER expenditures beyond age 45 among the uninsured could predict high costs for Medicare. Public health stakeholders in the United States should focus on controlling back problems, cardiovascular disease, kidney disease, and diabetes among the uninsured as these conditions are significant predictors of ER use among the uninsured aged 45-64. In the future, we plan build a two-part model to estimate ER expenditures using cardiovascular disease as our predictor variable.

References

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