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The Health Care Costs of Financial Exploitation in Maine

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Introduction

Elder financial exploitation (EFE,) defined as the illegal or improper use of the property or resources of an incapacitated or dependent adult for another's profit or advantage, takes myriad forms such as scams perpetrated by strangers or frauds perpetrated by trusted advisors. Most often however, EFE involves family members or friends who take or divert money or property for their own use. The loss of resources can lead to an older adult's inability to meet their own needs for food, shelter, or health care and increase their reliance on public programs, which often pay for these services for vulnerable adults.

This study sought to determine the Medicare and Medicaid costs experienced by dual eligible older adults in Maine for whom Maine Adult Protective Services (APS) substantiated allegations of EFE and to compare them to those of Maine's general older population. The analysis is an important step forward in estimating the medical costs associated with elder abuse.

Research Questions

1. What is the socioeconomic and health status profile of victims of EFE; how do they compare to the general older population in Maine?
2. Does the health care cost(use) profile of victims of EFE change pre & post APS investigation; how does this compare to matched controls?
3. Does health care use and cost differ from that of the general population by type of utilization, i.e. by inpatient, outpatient, LTSS, and prescription services?

Data Sources and Study Design

- The primary sources of data for this study are Medicare summary enrollment, cost, use, and chronic and disabling conditions data files; Maine Medicaid administrative claims; and Maine Adult Protective Services Information System (MAPSIS) data. All three data sources were limited to Maine adults age 60 and older over years 2006-2014.

- Dual eligible adults with APS investigations of EFE in 2007-2012 were matched with a set of non-APS controls. We established a 4-year study period for each APS adult: 1 pre-APS event year; the APS event year; and 2 years following the APS event year. Propensity scores facilitated matching each APS-EFE adult to 2 non-APS controls using nearest kernel techniques. Members were matched using age, gender, number and type of chronic conditions, payer (i.e. dual eligible), and urban/rural residence based on Rural-Urban Commuting Area codes.

- Using a quasi-experimental design, difference in differences logistic models and generalized linear models addressed the impact of financial exploitation on the probability of incurring costs and levels of inpatient, outpatient, long term services and supports (LTSS), and prescription expenditures, respectively.

Results

Table 2. Characteristics of APS-EFE and Non-APS Sample Populations

Characteristic	APS-EFE N=131	Non-APS N=69,432	P-value
Age (Avg. years)	76.8	73.8	0.54
% Less than 75	40.5	54.8	0.004
% 75 to 84	38.9	30.4	
% 85 and older	20.6	14.9	
% Female	66.4	63.8	0.54
Health Status – Chronic Conditions			
Avg. no. of chronic conditions	9.4	6.7	0.0001
Alzheimer's / Dementia	67.94	22.35	0.0001
AMI	14.50	9.03	0.03
Anemia	83.97	54.01	0.0001
Asthma	25.95	15.81	0.002
Atrial Fibrillation	29.01	20.16	0.01
Bipolar Disorder	10.69	5.15	0.004
Cancer	27.48	16.74	0.001
Congestive Heart Failure	64.89	35.11	0.0001
Chronic Obstructive Pulmonary Disorder	61.07	40.07	0.0001
Depression	77.86	46.98	0.0001
Diabetes	64.12	41.26	0.0001
Ischemic Heart Disease	61.83	51.36	0.02
Chronic Kidney Disease	59.54	35.63	0.0001
Stroke	29.01	16.15	0.0001
Rural-Urban Commuting Areas			
% Urban	53.4	55.6	0.12
% Large rural	17.6	12.3	
% Small rural	8.4	13.5	
% Isolated	20.6	18.5	

Figure 1. Total (observed) per member per month expenditures for APS-EFE and non-APS matched controls across 4-year study period, with upper and lower 95% confidence intervals

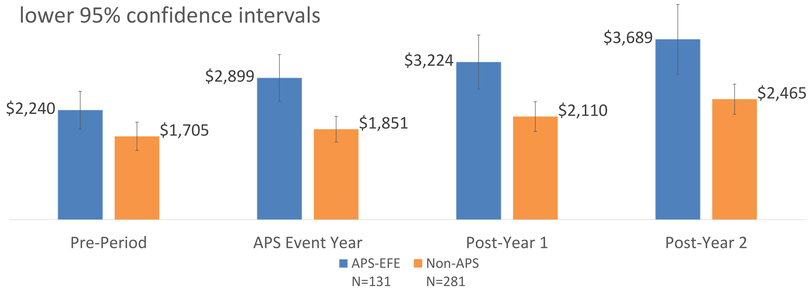

Table 2. Difference in differences generalized linear model (Gamma distribution with identity link) estimating total expenditure levels (including inpatient, outpatient, LTSS, and prescription services), 2006-14*

Total Costs (n=1,640 person-years)	$ Coefficient	$ Robust SE	P>|z|	$ LL 95% CI	$ UL 95% CI
Group (APS = 1)	543	240	0.02	73	1,013
Year 2	149	101	0.14	-49	348
Year 3	413	137	0.003	144	682
Year 4	752	151	0	455	1,048
Group X Year 2	511	212	0.02	97	926
Group X Year 3	578	265	0.03	59	1,098
Group X Year 4	708	359	0.05	4	1,412
Baseline Costs	1,682	144	0	1,400	1,963

SE=Standard Error, LL=Lower Limit, UL=Upper Limit, CI=Confidence Interval

Table 3. Total 4-year Medicare and Medicaid costs above matched controls for 131 dual eligible older adults with substantiated elder financial exploitation

PMPM by year costs above expected PMPM in the absence of substantiated abuse		Per member annual cost (PMPM*12)
Y1	$543	$6,516
Y2	$511	$6,132
Y3	$578	$6,936
Y4	$708	$8,496
Total per member cost above expected over four year study period (SUM Y1:Y4)		$28,080
4-year costs of 131 substantiated abuse cases above expected costs absent abuse (131*$28,080)		$3.7 million

Note: Costs are standardized to 2014 dollars.

Summary of Results

A higher proportion of the APS-EFE group lived in rural areas compared to the non-APS comparison pool (47% vs. 44%). Geographic isolation can lead to greater dependence on others for daily needs and provide opportunities for exploitation to occur.

The APS-EFE population represent a more vulnerable, clinically complex set of patients: they had a higher number of chronic conditions, were more likely to have been diagnosed with Alzheimer's Disease and other dementia, asthma, heart disease, cancer, depression, diabetes, chronic kidney disease, and stroke than the general elderly population.

The APS-EFE group had higher total costs than matched controls across the 4-year study period. While annual costs for both groups increased over time, difference in differences generalized linear model showed the interaction between Years 2-4 and baseline to be significantly higher for the APS-EFE group ($p \leq 0.05$). Strikingly, the APS-EFE group were nearly twice as likely to be hospitalized (p=0.003) and for those who were, hospitalization costs were an estimated $797 higher than controls (p=0.04).

Compared to matched controls, the APS-EFE group had **higher costs** over the 4-year study period of nearly **$3.7 million**, 2006-2014.

Conclusion

Elder financial exploitation may result in significant public burden on Medicare and Medicaid, shouldered by taxpayers. Efforts to detect, investigate, prosecute, and mitigate this abuse will benefit not only the victims, but also the financial stewardship of these public programs.

Acknowledgements

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