

Effects of Health Insurance Coverage on Health & Financial Outcomes DML Updated Tables

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Abstract

This document is an amendment to the main paper. Version 1: March 23, 2024. Code for main project: https://github.com/Yasmineouattara/ML_for_Econ_Final_Project/tree/main.

	(1)	(2)	(3)	(4)	(5)	(6)	(7) ¹
Healthcare Utilization							
Prescription drugs, currently (extensive margin)	0.088 (0.029)	0.026 (0.022)	0.015 (0.024)	0.023 (0.021)	0.003 (0.023)	0.026 (0.021)	0.008 (0.023)
Prescription drugs, currently (total utilization)	0.347 (0.176)	0.042 (0.131)		0.039 (0.130)		0.062 (0.129)	
Outpatient visits, last six months (extensive margin)	0.212 (0.212)	0.187 (0.024)	0.188 (0.024)	0.187 (0.024)	0.187 (0.024)	0.188 (0.024)	0.190 (0.024)
Outpatient visits, last six months (total utilization)	1.083 (0.182)	0.909 (0.173)		0.903 (0.173)		0.906 (0.173)	
ER visits, last six months (extensive margin)	0.022 (0.023)	-0.002 (0.022)	-0.004 (0.022)	-0.002 (0.022)	-0.002 (0.022)	-0.002 (0.022)	-0.001 (0.022)
ER visits, last six months (total utilization)	0.026 (0.056)	-0.028 (0.053)		-0.029 (0.053)		-0.029 (0.053)	
Inpatient hospital admissions, last six months (extensive margin)	0.008 (0.014)	-0.000 (0.013)	0.001 (0.013)	0.001 (0.013)	-0.000 (0.013)	0.000 (0.013)	-0.000 (0.013)
Inpatient hospital admissions, last six months (total utilization)	0.021 (0.021)	0.015 (0.020)		0.014 (0.020)		0.014 (0.020)	
Financial Strain							
Any OOP medical expense, last six months	-0.200 (0.026)	-0.204 (0.025)	-0.206 (0.025)	-0.204 (0.025)	-0.205 (0.025)	-0.203 (0.025)	-0.203 (0.025)
Owe medical expense, currently	-0.180 (0.026)	-0.201 (0.025)	-0.200 (0.025)	-0.202 (0.025)	-0.202 (0.025)	-0.201 (0.025)	-0.202 (0.025)
Borrowed money or skipped bills for medical expense, last six months	-0.154 (0.025)	-0.162 (0.023)	-0.161 (0.023)	-0.162 (0.023)	-0.161 (0.023)	-0.162 (0.023)	-0.162 (0.023)
Refused treatment due to medical debt, last six months	-0.036 (0.014)	-0.044 (0.013)	-0.039 (0.013)	-0.043 (0.013)	-0.038 (0.013)	-0.043 (0.013)	-0.038 (0.013)
Self-Reported Health							
Self-reported health (overall)	0.133 (0.026)	0.151 (0.024)	0.152 (0.025)	0.152 (0.025)	0.153 (0.025)	0.151 (0.025)	0.153 (0.025)
Self-reported health (change)	0.113 (0.023)	0.124 (0.022)	0.123 (0.022)	0.123 (0.022)	0.122 (0.022)	0.124 (0.022)	0.124 (0.022)
# days of good physical health, past 30 days	1.317 (0.563)	2.085 (0.530)		2.065 (0.530)		2.008 (0.527)	
# days of good mental health, past 30 days	2.082 (0.640)	2.589 (0.558)		2.595 (0.556)		2.615 (0.556)	
# days of usual activity unimpaired, past 30 days	1.585 (0.606)	0.110 (0.024)		0.111 (0.024)		0.110 (0.024)	
Did not screen positive for depression, last two weeks	0.078 (0.025)	0.108 (0.023)		0.107 (0.023)		0.107 (0.023)	
Potential Mechanisms for Improved Health							
Have usual place of clinic-based care	0.339 (0.027)	0.314 (0.024)	0.311 (0.024)	0.317 (0.024)	0.317 (0.024)	0.318 (0.024)	0.319 (0.024)
Have personal doctor	0.280 (0.026)	0.271 (0.024)	0.274 (0.024)	0.271 (0.024)	0.272 (0.024)	0.271 (0.024)	0.271 (0.024)
Got all needed medical care, last six months	0.239 (0.022)	0.268 (0.024)	0.268 (0.024)	0.267 (0.024)	0.266 (0.024)	0.266 (0.024)	0.264 (0.024)
Got all needed drugs, last six months	0.195 (0.019)	0.217 (0.022)	0.218 (0.022)	0.217 (0.022)	0.217 (0.022)	0.216 (0.022)	0.214 (0.022)
Did not use ER for non-emergency, last six months	-0.004 (0.015)	0.005 (0.014)	0.005 (0.014)	0.005 (0.014)	0.006 (0.014)	0.006 (0.014)	0.006 (0.014)
Quality of care received last six months	0.142 (0.027)	0.106 (0.019)	0.087 (0.021)	0.105 (0.019)	0.071 (0.019)	0.108 (0.018)	0.068 (0.019)
Happiness	0.191 (0.026)	0.303 (0.033)	0.305 (0.033)	0.302 (0.033)	0.305 (0.033)	0.302 (0.033)	0.302 (0.033)

Table 1: Two-Stage-Least-Squares Results after Controlling for Item Non-Response

¹Column (1) shows Finkelstein et al. (2012)’s estimates, columns (2)-(7) replicates Finkelstein et al.’s procedure on the dataset post k -NN imputation controlling for item non-response for $k = 5, 10, 20$. Specifically, columns (2), (4), (6) show estimates directly from imputed data, while columns (3), (5), (7) show results for manually adjusted binary outcomes.

	(1)	(2)	(3)	(4)	(5)	(6)	(7) ²
Health Utilization							
Prescription drugs, currently (extensive margin)	0.088 (0.029)	-10.377 (3.858)	-0.021 (0.035)	-0.010 (0.029)	-0.008 (0.029)	-0.005 (0.034)	-0.006 (0.034)
Prescription drugs, currently (total utilization)	0.347 (0.176)	-14.857 (4.013)	-0.052 (0.168)	-0.052 (0.153)	-0.061 (0.151)	-0.039 (0.128)	-0.055 (0.128)
Outpatient visits, last six months (extensive margin)	0.212 (0.025)	-12.331 (5.773)	0.129 (0.034)	0.156 (0.031)	0.157 (0.031)	0.161 (0.030)	0.160 (0.030)
Outpatient visits, last six months (total utilization)	1.083 (0.182)	-25.250 (23.073)	0.658 (0.166)	0.767 (0.170)	0.768 (0.170)	0.747 (0.176)	0.747 (0.177)
ER visits, last six months (extensive margin)	0.022 (0.023)	1.552 (5.034)	-0.005 (0.024)	-0.003 (0.025)	-0.001 (0.025)	0.001 (0.025)	0.001 (0.025)
ER visits, last six months (total utilization)	0.026 (0.056)	3.976 (0.575)	-0.039 (0.054)	-0.029 (0.054)	-0.026 (0.054)	-0.016 (0.059)	-0.016 (0.059)
Inpatient hospital admissions, last six months (extensive margin)	0.008 (0.014)	-0.112 (0.153)	0.000 (0.015)	0.020 (0.012)	0.021 (0.012)	0.019 (0.013)	0.020 (0.013)
Inpatient hospital admissions, last six months (total utilization)	0.021 (0.021)	-0.082 (0.085)	0.013 (0.022)	0.032 (0.021)	0.032 (0.021)	0.031 (0.018)	0.031 (0.017)
Financial Strain							
Any OOP medical expense, last six months	-0.200 (0.026)	-8.879 (2.053)	-0.271 (0.028)	-0.240 (0.036)	-0.241 (0.036)	-0.233 (0.033)	-0.235 (0.033)
Owe medical expense, currently	-0.180 (0.026)	-0.278 (2.488)	-0.279 (0.034)	-0.232 (0.034)	-0.231 (0.034)	-0.222 (0.037)	-0.222 (0.037)
Borrowed money or skipped bills for medical expense	-0.154 (0.025)	-1.937 (1.843)	-0.206 (0.028)	-0.183 (0.027)	-0.183 (0.027)	-0.180 (0.027)	-0.181 (0.027)
Refused treatment due to medical debt	-0.036 (0.014)	-0.314 (0.184)	-0.036 (0.014)	-0.020 (0.014)	-0.020 (0.014)	-0.020 (0.013)	-0.021 (0.013)
Self-Reported Health							
Self-reported health (overall)	0.133 (0.026)	-8.043 (71.279)	0.085 (0.034)	0.105 (0.032)	0.106 (0.032)	0.109 (0.032)	0.109 (0.032)
Self-reported health (change)	0.113 (0.023)	3.530 (8.142)	0.015 (0.037)	0.057 (0.037)	0.057 (0.036)	0.059 (0.037)	0.060 (0.037)
# days of good physical health, past 30 days	1.317 (0.563)	-171.119 (219.847)	-1.261 (0.998)	-0.815 (0.983)	-0.802 (0.983)	-0.718 (1.056)	-0.707 (1.057)
# days of good mental health, past 30 days	2.082 (0.640)	-161.801 (1891.512)	-0.687 (0.954)	-0.109 (0.889)	-0.106 (0.886)	-0.125 (0.880)	-0.116 (0.880)
# days of usual activity impaired, past 30 days	1.585 (0.606)	-5.986 (5.304)	0.016 (0.034)	0.034 (0.039)	0.034 (0.040)	0.040 (0.035)	0.040 (0.035)
Did not screen positive for depression, last two weeks	0.078 (0.025)	-6.005 (6.227)	0.012 (0.034)	0.016 (0.034)	0.017 (0.034)	0.021 (0.036)	0.022 (0.036)
Potential Mechanisms for Improved Health							
Have usual place of clinic-based care	0.339 (0.027)	-6.139 (62.937)	0.241 (0.027)	0.259 (0.028)	0.260 (0.028)	0.261 (0.027)	0.263 (0.027)
Have personal doctor	0.280 (0.026)	-8.046 (1.604)	0.223 (0.026)	0.230 (0.028)	0.230 (0.028)	0.237 (0.033)	0.236 (0.033)
Got all needed medical care, last six months	0.239 (0.022)	-6.113 (1.925)	0.198 (0.030)	0.197 (0.032)	0.198 (0.032)	0.196 (0.036)	0.198 (0.036)
Got all needed drugs, last six months	0.195 (0.019)	-5.813 (2.866)	0.120 (0.040)	0.135 (0.032)	0.136 (0.032)	0.136 (0.035)	0.139 (0.034)
Did not use ER for non-emergency, last six months	-0.004 (0.015)	-7.420 (5.252)	-0.131 (0.040)	-0.093 (0.037)	-0.094 (0.037)	-0.087 (0.036)	-0.086 (0.036)
Quality of care received last six months	0.142 (0.027)	-6.297 (14.083)	0.017 (0.034)	0.028 (0.028)	0.030 (0.028)	0.032 (0.033)	0.033 (0.034)
Happiness	0.191 (0.026)	-6.645 (6.005)	0.202 (0.043)	0.224 (0.047)	0.224 (0.047)	0.226 (0.036)	0.226 (0.036)

Table 2: Double Machine Learning LATE Estimates for Unit Non-Response

²Column (1) shows Finkelstein et al. (2012)'s estimates, columns (2)-(7) estimates the LATE with DML, with even-numbered columns for the propensity score with respect to X and odd-numbered with respect to both X and W . Specifically, columns (2) and (3) show the DML estimates produced using Finkelstein et al.'s 1-dimensional X , (6) and (7) show estimates for our chosen 8-dimensional X , while columns (4) and (5) repeat (6) and (7) but with Finkelstein et al.'s choice of treatment and covariates regarding the measurement of insurance and other program coverage. Standard errors are obtained through bootstrap.