

Table S5. Coefficients of predictors selected by LASSO for CNS dysfunction

CNS dysfunction outcome		Coef.
Constant		
*Intercept		-5.468978
Phenytoin Exposure		1.424065
Mental Health Disorders		0.393474
# Inpatient Days		0.1014374
# ED Visits		0.0139708
Charlson Comorbidity Index		0.2961687
Dementia		1.129515
Stroke		-0.1299359
Diabetes		-0.1739986
Gabapentinoid Exposure		0.0482018
Statin Exposure		-0.0467947
Epilepsy		1.081865
Hypertension		0.1920152
Insomnia		0.3015898
Indication		
2		-0.2723774
3		-0.0094923
4		0.0148399
Age Category		
25		-0.4522132
30		-0.7039372
35		-0.5545538
40		-0.5439022
45		-0.11911
50		-0.1851423
55		-0.1347937
60		0.2177181
65		0.6722399
70		1.229105
75		1.525325
80		2.120999
85		2.835853
Interactions		
Age Category	Sex (1=Female)	
18	1	0.0528739
25	1	0.2862511
30	1	0.586292
35	1	0.2894596
40	1	0.5697007

45	1		-0.0502741
50	1		0.1738798
55	1		0.1838787
60	1		0.0406323
65	1		0.019169
70	1		0.0290036
75	1		0.279162
80	1		0.1358145
85	1		0.015954
Age Category	Indication		
25	2		-0.0694028
25	3		-0.1297434
30	2		0.4072172
30	3		-0.2907909
30	4		2.317407
35	2		0.1653844
35	3		-0.0392513
35	4		-0.2714656
40	2		0.1453113
40	3		-0.3705459
40	4		-0.8845336
45	2		0.0628905
45	3		-0.3126341
45	4		0.6882011
50	2		-0.190726
50	3		-0.3494827
50	4		0.7999271
55	2		0.2361675
55	3		-0.1240051
55	4		0.3341756
60	2		-0.3638459
60	3		-0.5139599
60	4		0.4030276
65	2		-0.1675432
65	3		-0.5156079
65	4		0.2937736
70	2		-0.2659103
70	3		-0.3547011
70	4		0.2948209
75	2		-0.5245307
75	3		-0.4321382
75	4		-0.0482178
80	2		-0.1406169
80	3		-0.3806748
80	4		-0.1834223
85	2		-0.3720236
85	3		-0.1570931

85	4		-0.1860968
Age Category	Hereditary PN		
25	1		0.7227039
30	1		-1.462578
35	1		0.6199825
40	1		1.329043
45	1		1.706914
50	1		-0.1840428
55	1		-0.1317544
60	1		-0.6865612
65	1		0.392488
70	1		-0.6903707
75	1		0.0525912
80	1		-0.1876871
85	1		1.041896
Age Category	Renal Dysfunction		
18	1		0.2791998
25	1		0.3446259
30	1		1.095747
35	1		0.4102425
40	1		0.5373345
45	1		0.3991419
50	1		0.569475
55	1		-0.002967
60	1		0.3786855
65	1		0.4166764
70	1		0.0627698
75	1		0.0000695
80	1		-0.2349723
85	1		0.0466193
Age Category	Epilepsy		
18	1		3.245649
25	1		1.97763
35	1		2.77965
45	1		3.756699
50	1		3.375396
55	1		2.001905
60	1		3.514928
65	1		1.706228
75	1		1.354111
80	1		1.0119
Age Category	Statin Exposure		
18	1		0.3644546
25	1		0.0261239
30	1		-1.205368
35	1		0.3235381

40	1		-0.0393941
45	1		-0.220408
50	1		0.1823041
55	1		-0.1486231
60	1		-0.1227546
65	1		-0.0654692
70	1		-0.0381313
75	1		-0.0775991
80	1		-0.0485713

Age Category **Chemotherapy Medication Exposure**

50	1		-2.031412
55	1		-0.4785263

Age Category **Gabapentinoid Exposure**

25	1		1.993045
30	1		2.038677
35	1		1.85209
40	1		0.8758384
45	1		1.423624
50	1		1.016048
55	1		0.9135155
60	1		0.9294375
65	1		0.903402
70	1		0.5073962
75	1		0.3444359
80	1		0.0022942

Age Category **Diabetes**

18	1		0.8636741
25	1		0.5099224
30	1		0.2952576
35	1		0.4402142
40	1		0.1558466
45	1		0.0473062
50	1		0.1998451
55	1		0.0924688
60	1		0.2277425
65	1		0.1786818
70	1		0.3755865
75	1		0.2794313
80	1		0.1242787

Age Category **Ischemic Stroke**

25	1		-0.526977
30	1		0.3274186
40	1		0.9835659
45	1		1.97852

50	1		1.890591
55	1		0.713859
60	1		1.485125
65	1		0.9553846
70	1		1.01581
75	1		0.8512109
80	1		0.3251983

Age Category

Dementia

45	1		-4.655485
60	1		-0.1047459
65	1		0.5819099
70	1		0.3427988
75	1		0.2926305
80	1		-0.3729953

Age Category

**Charlson
Comorbidity Index**

25			0.0826153
30			-0.0976284
35			-0.2901253
40			-0.0258087
45			-0.0396349
50			-0.0617862
55			-0.0225547
60			-0.0673372
65			-0.1918401
70			-0.147024
75			-0.1682108
80			-0.1748337
85			-0.3698801

Age Category

ED Visits

25			-0.0044515
30			0.0645395
35			-0.0249336
40			0.0108293
45			0.0364486
50			0.050742
55			0.0343513
60			0.059283
65			0.1323197
70			0.17327
75			0.0461583
80			0.063528
85			0.081723

Age Category

Impatient Days

25			-0.097189
30			-0.0860337

85	1		0.1169885
Age Category	Metronidazole		
	Exposure		
18	1		-0.3576349
25	1		0.6878363
30	1		0.3543292
35	1		-0.0459788
40	1		0.0563025
45	1		-0.5112096
50	1		0.4501902
55	1		0.052608
60	1		0.6657769
65	1		0.1181807
70	1		0.4300328
75	1		0.3239104
80	1		0.0339742
85	1		-0.1543369
Age Category	Hypertension		
18	1		-0.2650871
25	1		0.0310324
30	1		0.4002266
35	1		0.2933026
40	1		0.254321
45	1		0.0801587
50	1		0.0460906
55	1		0.3542451
60	1		0.124808
65	1		-0.102367
70	1		-0.3379973
75	1		-0.1455159
80	1		-0.1284112
Age Category	Insomnia		
18	1		0.6372685
25	1		0.8520889
30	1		-1.259243
35	1		1.133048
40	1		0.3783417
45	1		0.9271492
50	1		0.2859182
55	1		0.0434661
60	1		1.193454
65	1		0.3357896
70	1		0.5124281
75	1		0.2178235
80	1		-0.1441984
Sex	Indication		
1	1		-0.2824601

1	2		-0.2033288
1	3		-0.0565524
Sex	Epilepsy		
0	1		-1.173399
Sex	Diabetes		
0	1		0.2035207
Sex	Stroke		
0	1		-0.1054426
Sex	Charlson Comorbidity Index		
1			0.02277
Sex	# ED Visits		
1			0.0115082
Sex	Mental Health Disorders		
0	1		-0.184494
Sex	Phenytoin Exposure		
0	1		1.222363
Sex	Nitrofurantoin Exposure		
0	1		0.3832551
Sex	Metronidazole Exposure		
0	1		0.6262923
Sex	Hypertension		
0	1		-0.1589795
Sex	Insomnia		
0	1		0.2007893

Predicted probability =
$$\frac{e^{(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots)}}{1 + e^{(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots)}}$$

Sex: 1=female, 0=male; Indication: 1=uncomplicated UTI, 2=acute bacterial sinusitis, 3=acute bronchitis, 4=acute bacterial exacerbation of chronic bronchitis; For all other binary predictors: 1=condition/medication present, 0=condition/medication absent

*Intercept adjusted to account for randomly sampled controls (described in methods section under "study design") by adding the log odds of being a case in original data to the intercept found from logistic regression

Abbreviations: CNS=central nervous system; coef=coefficient; ED=emergency department; PN=peripheral neuropathy