

**Appendix**

Table 1. Regression Results for Nonfatal Falls According to Payer: 2017, 2019, and 2021, Medicare Current Beneficiary Survey, United States

	Coefficient	Medicare <sup>a</sup>		Coefficient	Medicaid <sup>a</sup>		Coefficient	Private/Out of Pocket/Other <sup>a</sup>	
		95% CI Low	95% CI High		95% CI Low	95% CI High		95% CI Low	95% CI High
<b>Generalized Linear Model</b>									
Fall	0.2816	0.1581	0.4051	57.6644	-678.2840	793.6128	0.2357	0.1589	0.3124
Northeast Region	0.3171	0.1505	0.4838	182.6385	-887.4641	1252.7410	-0.0104	-0.1150	0.0941
Midwest Region	-0.0537	-0.2131	0.1057	-502.2189	-1578.4410	574.0028	-0.1486	-0.2471	-0.0501
South Region	0.1053	-0.0346	0.2451	-574.2339	-1478.6090	330.1416	-0.1159	-0.2031	-0.0287
Income 25,000-50,000	-0.2022	-0.3601	-0.0443	116.0466	-1168.1460	1400.2390	0.4606	0.3638	0.5573
Income 50,001-75,000	-0.1600	-0.3190	-0.0009	-536.8967	-3024.0030	1950.2100	0.6609	0.5623	0.7595
Income >75,001	-0.1681	-0.3381	0.0019	-1843.3710	-6281.5920	2594.8500	0.8754	0.7710	0.9799
Female	0.0457	-0.0681	0.1594	140.1547	-603.4122	883.7215	0.0339	-0.0376	0.1054
Race - White	0.0176	-0.1438	0.1791	216.6300	-487.2396	920.4996	0.1546	0.0550	0.2543
Age	0.0690	0.0271	0.1109	17.8162	-219.2189	254.8514	0.0567	0.0303	0.0831
Some College	-0.1638	-0.2961	-0.0314	-426.2010	-1327.7790	475.3772	0.1622	0.0799	0.2445
College Graduate	0.0627	-0.0773	0.2027	488.8552	-699.1431	1676.8530	0.1603	0.0741	0.2464
Cancer	-0.3420	-0.4506	-0.2334	225.4225	-502.6477	953.4927	-0.2492	-0.3157	-0.1826
Alzheimer's Disease	0.0517	-0.3363	0.4398	-748.8589	-2422.0850	924.3670	0.0734	-0.1639	0.3107
Congestive Heart Failure	-0.4630	-0.6735	-0.2526	-1058.7900	-2065.2570	-52.3234	-0.2163	-0.3492	-0.0834
Dementia	0.0436	-0.2886	0.3757	1293.7500	51.2625	2536.2380	0.2597	0.0545	0.4650
Osteoporosis/Soft Bones	0.0603	-0.0793	0.2000	169.9767	-625.2314	965.1847	0.1752	0.0873	0.2631
Emphysema, Asthma, COPD	0.1398	0.0069	0.2727	1242.0640	471.7438	2012.3850	0.1044	0.0219	0.1869
Other Heart Conditions	0.2723	0.1533	0.3912	-59.1621	-821.7629	703.4388	0.1577	0.0834	0.2320
Stroke/Brain Hemorrhage	0.3117	0.1377	0.4856	-79.3985	-940.7818	781.9848	0.1524	0.0433	0.2615
High Blood Pressure	0.2022	0.0868	0.3176	388.0653	-507.7863	1283.9170	0.0643	-0.0092	0.1379
Myocardial Infraction	0.0523	-0.1268	0.2313	-211.2221	-1118.3050	695.8612	0.0302	-0.0822	0.1427
Legally Blind	0.4895	-0.1742	1.1532	2098.9230	-911.4515	5109.2980	0.2958	-0.1199	0.7114
Diabetes	0.1848	0.0680	0.3015	943.4878	262.8143	1624.1610	0.1530	0.0794	0.2267
Very Good Health	0.3634	0.2125	0.5142	-210.0764	-1443.8190	1023.6660	0.2588	0.1645	0.3531
Good Health	0.6713	0.5133	0.8293	281.4397	-912.5181	1475.3970	0.4668	0.3673	0.5663
Fair Health	0.9674	0.7708	1.1640	333.9287	-899.0336	1566.8910	0.6348	0.5096	0.7599
Poor Health	1.7257	1.4170	2.0344	972.9298	-596.6973	2542.5570	1.1409	0.9454	1.3363

Obese	-0.0864	-0.2218	0.0490	75.7974	-754.1862	905.7810	0.0464	-0.0402	0.1330
Overweight	-0.0629	-0.1886	0.0628	375.5610	-421.8016	1172.9240	0.0421	-0.0367	0.1209
<b>Logistic Regression<sup>b</sup></b>									
Fall	-	-	-	0.3752	-0.0224	0.7728	-	-	-
Northeast Region	-	-	-	0.3378	-0.2273	0.9029	-	-	-
Midwest Region	-	-	-	-0.3522	-0.8777	0.1733	-	-	-
South Region	-	-	-	-0.2568	-0.7327	0.2192	-	-	-
Income 25,000-50,000	-	-	-	-1.0089	-1.4897	-0.5281	-	-	-
Income 50,001-75,000	-	-	-	-2.2603	-2.9856	-1.5351	-	-	-
Income >75,001	-	-	-	-3.1994	-4.3401	-2.0587	-	-	-
Female	-	-	-	0.0771	-0.2872	0.4413	-	-	-
Race - White	-	-	-	-1.1642	-1.5617	-0.7666	-	-	-
Age	-	-	-	0.1809	0.0563	0.3054	-	-	-
Some College	-	-	-	-0.5552	-0.9562	-0.1542	-	-	-
College Graduate	-	-	-	-0.1710	-0.7352	0.3932	-	-	-
Cancer	-	-	-	-0.0429	-0.4141	0.3283	-	-	-
Alzheimer's Disease	-	-	-	0.7644	-0.0552	1.5841	-	-	-
Congenitive Heart Failure	-	-	-	0.2380	-0.3120	0.7879	-	-	-
Dementia	-	-	-	0.2511	-0.4852	0.9875	-	-	-
Osteoporosis/Soft Bones	-	-	-	0.1861	-0.2463	0.6185	-	-	-
Emphysema, Asthma, COPD	-	-	-	0.4546	0.0411	0.8681	-	-	-
Other Heart Conditions	-	-	-	-0.0300	-0.4260	0.3660	-	-	-
Stroke/Brain Hemorrhage	-	-	-	0.4098	-0.0822	0.9017	-	-	-
High Blood Pressure	-	-	-	0.3499	-0.0461	0.7458	-	-	-
Myocardial Infraction	-	-	-	0.4132	-0.1127	0.9390	-	-	-
Legally Blind	-	-	-	0.5286	-1.2516	2.3087	-	-	-
Diabetes	-	-	-	0.5648	0.1971	0.9325	-	-	-
Very Good Health	-	-	-	0.0943	-0.4578	0.6464	-	-	-
Good Health	-	-	-	0.1658	-0.3845	0.7161	-	-	-
Fair Health	-	-	-	0.0997	-0.4859	0.6854	-	-	-
Poor Health	-	-	-	0.4424	-0.3666	1.2513	-	-	-
Obese	-	-	-	-0.1748	-0.6159	0.2663	-	-	-
Overweight	-	-	-	-0.2665	-0.6699	0.1370	-	-	-

Note: CI=Confidence Interval;

<sup>a</sup>Separate regression models were estimated by payer type, controlling for the covariates listed in the table.

<sup>b</sup>To account for distributional issues around large numbers of observations with zero-mass (i.e., no medical expenditures), we used a two-part model. The first part of the model utilized logistic regression to estimate the probability of a positive medical expenditure, and the second part used a GLM for positive expenditures.

Table 2a. Regression Results for Nonfatal Falls According to Provider: 2017, 2019, and 2021, Medicare Current Beneficiary Survey, United States

	Coefficient	Hospital <sup>a</sup>		Physician/Other Provider <sup>a</sup>			Dental <sup>a</sup>		
		95% CI Low	95% CI High	Coefficient	95% CI Low	95% CI High	Coefficient	95% CI Low	95% CI High
Generalized Linear Model									
Fall	0.4385	0.2620	0.6149	0.2515	0.1728	0.3303	230.2572	45.6763	414.8382
Northeast Region	0.2736	0.0344	0.5128	0.1599	0.0532	0.2665	-106.6147	-358.3943	145.1649
Midwest Region	-0.0094	-0.2347	0.2158	-0.1415	-0.2426	-0.0405	-260.0418	-495.2465	-24.8371
South Region	-0.0172	-0.2166	0.1822	0.1307	0.0416	0.2198	-206.7653	-421.7185	8.1880
Income 25,000-50,000	-0.0181	-0.2473	0.2111	0.1124	0.0129	0.2120	67.3774	-206.2608	341.0157
Income 50,001-75,000	0.0048	-0.2302	0.2399	0.2390	0.1381	0.3398	-0.3765	-272.6890	271.9361
Income >75,001	-0.1831	-0.4316	0.0654	0.3066	0.1986	0.4147	243.4063	-38.8938	525.7064
Female	-0.0851	-0.2479	0.0777	0.1819	0.1092	0.2546	-88.8326	-263.9171	86.2519
Race - White	0.0738	-0.1619	0.3096	-0.0174	-0.1198	0.0851	-140.1163	-435.9259	155.6933
Age	0.0475	-0.0128	0.1078	0.0730	0.0461	0.0998	-30.0174	-92.9001	32.8654
Some College	-0.1145	-0.3067	0.0778	0.0226	-0.0620	0.1072	227.8205	13.2045	442.4366
College Graduate	-0.0067	-0.2081	0.1947	0.1496	0.0600	0.2392	113.2481	-103.8689	330.3651
Cancer	-0.3183	-0.4739	-0.1626	-0.3616	-0.4300	-0.2931	-5.0916	-164.9479	154.7647
Alzheimer's Disease	0.2002	-0.3585	0.7589	0.1929	-0.0555	0.4414	-444.9658	-1068.6860	178.7545
Congenitive Heart Failure	-0.7969	-1.0982	-0.4956	-0.2912	-0.4263	-0.1560	58.8998	-284.4953	402.2950
Dementia	0.0451	-0.4334	0.5236	-0.0026	-0.2162	0.2110	3.7688	-505.9760	513.5135
Osteoporosis/Soft Bones	0.0143	-0.1875	0.2161	0.1471	0.0577	0.2365	60.7286	-141.7432	263.2003
Emphysema, Asthma, COPD	0.1362	-0.0534	0.3259	0.1053	0.0202	0.1905	63.7883	-143.8827	271.4592
Other Heart Conditions	0.2544	0.0823	0.4265	0.1762	0.1003	0.2521	-137.7866	-310.1122	34.5390
Stroke/Brain Hemorrhage	0.4713	0.2212	0.7215	0.0869	-0.0241	0.1980	263.2780	-12.3294	538.8854
High Blood Pressure	0.0536	-0.1163	0.2234	0.1705	0.0964	0.2447	-50.0122	-225.1861	125.1617
Myocardial Infraction	0.1348	-0.1192	0.3888	0.0296	-0.0850	0.1442	-31.7100	-304.7631	241.3431
Legally Blind	0.6861	-0.2662	1.6384	0.4150	-0.0109	0.8409	349.3274	-746.6830	1445.3380
Diabetes	0.0756	-0.0952	0.2464	0.1273	0.0527	0.2020	89.6663	-91.0857	270.4182
Very Good Health	0.3620	0.1420	0.5821	0.2194	0.1229	0.3159	118.2053	-98.4824	334.8931
Good Health	0.6040	0.3743	0.8338	0.4041	0.3028	0.5054	46.9098	-189.6555	283.4751
Fair Health	0.9806	0.6984	1.2629	0.6714	0.5432	0.7996	-55.3402	-386.0377	275.3573
Poor Health	1.3309	0.8891	1.7727	0.8343	0.6354	1.0332	-207.6523	-800.8844	385.5797
Obese	-0.0501	-0.2456	0.1455	0.1007	0.0126	0.1888	58.1320	-159.0862	275.3503

Overweight	0.0688	-0.1137	0.2513	0.0519	-0.0284	0.1322	1.6044	-184.7221	187.9310
<b>Logistic Regression<sup>b</sup></b>									
Fall	-	-	-	-	-	-	0.0295	-0.0833	0.1424
Northeast Region	-	-	-	-	-	-	0.2079	0.0437	0.3721
Midwest Region	-	-	-	-	-	-	0.1790	0.0291	0.3288
South Region	-	-	-	-	-	-	-0.0804	-0.2161	0.0552
Income 25,000-50,000	-	-	-	-	-	-	0.6616	0.5285	0.7948
Income 50,001-75,000	-	-	-	-	-	-	1.1269	0.9850	1.2688
Income >75,001	-	-	-	-	-	-	1.6534	1.4889	1.8179
Female	-	-	-	-	-	-	0.3972	0.2888	0.5056
Race - White	-	-	-	-	-	-	0.3444	0.1869	0.5018
Age	-	-	-	-	-	-	-0.0413	-0.0791	-0.0035
Some College	-	-	-	-	-	-	0.4954	0.3798	0.6109
College Graduate	-	-	-	-	-	-	1.0261	0.8938	1.1584
Cancer	-	-	-	-	-	-	-0.2629	-0.3629	-0.1630
Alzheimer's Disease	-	-	-	-	-	-	0.4270	0.1023	0.7517
Congenitive Heart Failure	-	-	-	-	-	-	0.2232	0.0388	0.4076
Dementia	-	-	-	-	-	-	-0.1832	-0.4488	0.0823
Osteoporosis/Soft Bones	-	-	-	-	-	-	0.2100	0.0814	0.3385
Emphysema, Asthma, COPD	-	-	-	-	-	-	-0.1688	-0.2904	-0.0472
Other Heart Conditions	-	-	-	-	-	-	0.2816	0.1730	0.3903
Stroke/Brain Hemorrhage	-	-	-	-	-	-	-0.2331	-0.3851	-0.0810
High Blood Pressure	-	-	-	-	-	-	-0.1336	-0.2468	-0.0204
Myocardial Infraction	-	-	-	-	-	-	-0.0760	-0.2295	0.0776
Legally Blind	-	-	-	-	-	-	-0.2565	-0.8222	0.3092
Diabetes	-	-	-	-	-	-	-0.0276	-0.1363	0.0811
Very Good Health	-	-	-	-	-	-	-0.0083	-0.1544	0.1377
Good Health	-	-	-	-	-	-	-0.1584	-0.3106	-0.0061
Fair Health	-	-	-	-	-	-	-0.5227	-0.7118	-0.3337
Poor Health	-	-	-	-	-	-	-0.6233	-0.9254	-0.3212
Obese	-	-	-	-	-	-	-0.0034	-0.1353	0.1284
Overweight	-	-	-	-	-	-	0.0564	-0.0609	0.1738

Note: CI=Confidence Interval;

<sup>a</sup>Separate regression models were estimated by provider type, controlling for the covariates listed in the table.

<sup>b</sup>To account for distributional issues around large numbers of observations with zero-mass (i.e., no medical expenditures), we used a two-part model. The first part of the model utilized logistic regression to estimate the probability of a positive medical expenditure, and the second part used a GLM for positive expenditures

Table 2b. Regression Results for Nonfatal Falls According to Provider: 2017, 2019, and 2021, Medicare Current Beneficiary Survey, United States

	Prescription Drugs <sup>a</sup>			Other <sup>a</sup>		
	Coefficient	95% CI Low	95% CI High	Coefficient	95% CI Low	95% CI High
Generalized Linear Model						
Fall	0.0058	-0.1614	0.1729	929.2102	-897.0248	2755.4450
Northeast Region	0.2663	0.0385	0.4941	-6002.4610	-9118.0810	-2886.8400
Midwest Region	-0.0367	-0.2540	0.1806	-5614.8190	-8735.0010	-2494.6370
South Region	0.1005	-0.0895	0.2906	-5510.5830	-8216.6670	-2804.4980
Income 25,000-50,000	-0.2443	-0.4591	-0.0296	-780.2012	-3161.5820	1601.1790
Income 50,001-75,000	-0.0577	-0.2728	0.1575	-1333.7810	-4039.1610	1371.5980
Income >75,001	0.2294	0.0017	0.4571	2192.8390	-787.6175	5173.2960
Female	0.0267	-0.1296	0.1830	-90.3426	-2118.0760	1937.3900
Race - White	0.0322	-0.1868	0.2511	993.1667	-1694.0620	3680.3950
Age	0.0031	-0.0548	0.0611	1467.6070	720.7841	2214.4300
Some College	-0.1279	-0.3051	0.0493	-1435.1270	-3638.8760	768.6226
College Graduate	0.1696	-0.0168	0.3561	-46.0720	-2544.7150	2452.5710
Cancer	-0.2468	-0.3928	-0.1008	-65.5924	-1924.0750	1792.8900
Alzheimer's Disease	0.0000	-0.5247	0.5247	-2605.9790	-6219.6110	1007.6520
Congenitive Heart Failure	0.1042	-0.1870	0.3954	-2275.9960	-4848.9330	296.9414
Dementia	-0.0385	-0.4859	0.4090	5807.6630	2721.2340	8894.0930
Osteoporosis/Soft Bones	0.1073	-0.0841	0.2986	1451.3490	-742.8624	3645.5610
Emphysema, Asthma, COPD	0.3181	0.1361	0.5000	454.8353	-1619.8390	2529.5090
Other Heart Conditions	0.4437	0.2837	0.6036	-67.5464	-1964.3240	1829.2310
Stroke/Brain Hemorrhage	0.1187	-0.1156	0.3529	2089.8540	-101.0318	4280.7410
High Blood Pressure	0.2978	0.1409	0.4548	352.6643	-1918.5470	2623.8760
Myocardial Infraction	-0.0525	-0.2970	0.1920	-471.7067	-2942.7740	1999.3610
Legally Blind	-0.4038	-1.3047	0.4971	1871.7300	-3680.7870	7424.2470
Diabetes	0.4368	0.2785	0.5951	811.4934	-1109.5570	2732.5440
Very Good Health	0.5813	0.3781	0.7846	1649.0050	-2231.4440	5529.4530
Good Health	1.1011	0.8869	1.3152	4144.3960	309.3981	7979.3940
Fair Health	1.3484	1.0807	1.6161	5772.1280	1768.2230	9776.0320
Poor Health	2.4414	2.0087	2.8740	9091.4690	4594.7880	13588.1500
Obese	-0.0703	-0.2565	0.1159	-1486.0380	-3885.0720	912.9957
Overweight	-0.1262	-0.2967	0.0444	-3148.4540	-5315.3930	-981.5144

<b>Logistic Regression<sup>b</sup></b>						
Fall	-	-	-	0.6587	0.5161	0.8013
Northeast Region	-	-	-	0.3251	0.0913	0.5588
Midwest Region	-	-	-	-0.0857	-0.3159	0.1445
South Region	-	-	-	0.2774	0.0763	0.4785
Income 25,000-50,000	-	-	-	-0.1741	-0.3593	0.0111
Income 50,001-75,000	-	-	-	-0.3837	-0.5920	-0.1755
Income >75,001	-	-	-	-0.2881	-0.5197	-0.0565
Female	-	-	-	0.2616	0.1053	0.4179
Race - White	-	-	-	-0.2691	-0.4814	-0.0568
Age	-	-	-	0.3765	0.3195	0.4335
Some College	-	-	-	0.0636	-0.1068	0.2339
College Graduate	-	-	-	0.1212	-0.0729	0.3153
Cancer	-	-	-	-0.1307	-0.2724	0.0111
Alzheimer's Disease	-	-	-	-0.7606	-1.0954	-0.4258
Congenitive Heart Failure	-	-	-	-0.4827	-0.6933	-0.2721
Dementia	-	-	-	0.5396	0.2616	0.8175
Osteoporosis/Soft Bones	-	-	-	-0.0249	-0.1959	0.1462
Emphysema, Asthma, COPD	-	-	-	0.1210	-0.0416	0.2835
Other Heart Conditions	-	-	-	0.1948	0.0492	0.3403
Stroke/Brain Hemorrhage	-	-	-	0.5528	0.3738	0.7319
High Blood Pressure	-	-	-	-0.0037	-0.1737	0.1663
Myocardial Infraction	-	-	-	0.0353	-0.1632	0.2338
Legally Blind	-	-	-	1.3463	0.7712	1.9214
Diabetes	-	-	-	0.2836	0.1350	0.4321
Very Good Health	-	-	-	0.5920	0.3229	0.8611
Good Health	-	-	-	0.8502	0.5813	1.1191
Fair Health	-	-	-	1.2844	0.9920	1.5768
Poor Health	-	-	-	2.3252	1.9594	2.6910
Obese	-	-	-	-0.0326	-0.2177	0.1524
Overweight	-	-	-	-0.1213	-0.2863	0.0437

Note: CI=Confidence Interval;

<sup>a</sup>Separate regression models were estimated by provider type, controlling for the covariates listed in the table.

<sup>b</sup>To account for distributional issues around large numbers of observations with zero-mass (i.e., no medical expenditures), we used a two-part model. The first part of the model utilized logistic regression to estimate the probability of a positive medical expenditure, and the second part used a GLM for positive expenditures.