

## Appendix C: HCBS Pressure Ulcer Results, by State

**Table 1: 2010 Medicaid-Only Beneficiaries**

State	PrU Numerator	PrU Denominator	PrU Observed Rate	PrU Expected Rate	PrU Risk-Adjusted Rate	PrU 95% CI Lower Bound	PrU 95% CI Upper Bound	Proportion Medicaid MCO Enrollment, 2010	Total Medicaid HCBS Expenditures Per Person, 2010
National	2,047	475,296	431	431	431	413	449	48.8	16,656
Alaska	4	1,994	201	387	223	-73	519	0.0	31,309
Alabama	10	5,807	172	532	139	-5	284	0.0	18,312
Arkansas	21	4,753	442	442	431	252	610	0.0	9,911
California	253	112,123	226	328	297	253	340	54.6	11,142
Colorado	30	7,773	386	470	353	220	487	7.9	16,314
Connecticut	19	5,875	323	391	356	186	526	69.8	21,209
District of Columbi	33	3,410	968	680	613	446	779	69.7	21,261
Delaware	NR	658	NR	NR	NR	NR	NR	73.0	27,965
Florida	6	16,062	37	350	46	-63	155	38.2	14,939
Georgia	72	13,937	517	568	392	302	482	62.2	15,620
Iowa	20	5,189	385	384	433	250	616	0.0	13,463
Illinois	270	28,830	937	548	736	672	800	7.5	12,660
Indiana	43	6,213	692	589	506	374	638	67.6	23,405
Kentucky	14	6,977	201	534	162	31	293	20.4	12,133
Louisiana	102	13,712	744	489	655	555	755	0.0	16,776
Massachusetts	34	11,470	296	334	382	250	514	32.6	21,020
Maryland	17	2,211	769	740	447	249	646	74.8	27,495
Michigan	35	3,962	883	527	722	546	899	65.4	9,038
Minnesota	45	15,136	297	434	295	195	395	63.8	23,196
Missouri	73	16,627	439	433	437	341	532	42.2	9,787
Mississippi	46	3,625	1,269	1,041	525	396	654	0.0	8,070
Montana	8	2,759	290	403	310	64	555	0.0	19,210
North Carolina	160	23,236	689	545	545	473	616	0.0	10,753
North Dakota	NR	927	NR	NR	NR	NR	NR	0.0	21,684
Nebraska	6	2,570	233	301	334	39	630	17.5	15,644
New Hampshire	13	2,067	629	333	812	498	1,127	0.0	22,911
New Jersey	42	4,617	910	502	781	612	950	76.8	17,702
New Mexico	NR	194	NR	NR	NR	NR	NR	73.1	25,816
Nevada	19	2,686	707	563	541	335	747	55.1	15,728
New York	142	35,439	401	312	553	474	631	67.0	34,630
Ohio	0	16,259	0	546	0	-86	86	73.5	17,259
Oklahoma	50	7,201	694	522	572	441	704	0.0	13,348
Oregon	8	2,548	314	442	306	63	548	70.9	18,798
Pennsylvania	16	6,383	251	466	232	85	378	53.9	26,699

Rhode Island	0	1,279	0	303	0	-419	419	67.3	1,874
South Carolina	70	5,906	1,185	681	750	624	876	48.6	15,267
South Dakota	NR	1,125	NR	NR	NR	NR	NR	0.0	14,603
Tennessee	NR	206	NR	NR	NR	NR	NR	96.4	33,253
Texas	92	22,997	400	411	420	336	503	44.4	7,844
Utah	4	1,637	244	321	327	-33	688	17.1	15,831
Virginia	133	8,792	1,513	577	1,129	1,015	1,242	59.2	26,030
Vermont	5	1,705	293	415	304	1	608	56.7	4,456
Washington	62	15,602	397	458	374	278	470	58.3	17,792
Wisconsin	13	3,332	390	416	404	185	622	59.6	20,783
West Virginia	41	5,024	816	476	739	572	906	48.6	19,723
Wyoming	NR	1,019	NR	NR	NR	NR	NR	0.0	22,773

Sources: Mathematica analysis of 2010 HCBS Medicaid-only HCBS users. Data sources included the 2010 MAX PS, OT and IP files, MBSF, and CCW conditions.

Proportion of Medicaid MCO Enrollment derived from Mathematica analysis of CMS's 2010 Medicaid Managed Care Enrollment Report, Summary Statistics as of June 30, 2010.

Total Medicaid HCBS Expenditures per person obtained from Kaiser Family Foundation, "Medicaid Home and Community-Based Services Programs: 2011 Data Update." Dec 22, 2014. Accessed on 9/16/2015 from <http://kff.org>

Notes: NR - Result not reported due to denominator not meeting minimum reporting requirement of 1,200.

For additional technical information, see "Development of an HCBS Pressure Ulcer Measure, Volumes 1 and 2," available at <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Balancing/Money-Follows-the-Person.html>.

## Appendix C: HCBS Pressure Ulcer Results, by State

**Table 2: 2010 Medicare-Medicaid Eligible Beneficiaries (Duals)**

State	PrU Numerator	PrU Denominator	PrU Observed Rate	PrU Expected Rate	PrU Risk-Adjusted Rate	PrU 95% CI Lower Bound	PrU 95% CI Upper Bound	Proportion Medicaid MCO Enrollment, 2010	Total Medicaid HCBS Expenditures Per Person, 2010
National	9,090	1,353,068	672	672	672	658	685	48.8	16,656
Alaska	20	4,581	437	668	439	205	673	0	31,309
Alabama	89	10,295	864	727	798	650	946	0	18,312
Arkansas	127	14,872	854	794	722	604	841	0	9,911
California	1,324	275,477	481	506	638	603	672	54.6	11,142
Colorado	84	19,737	426	778	368	265	470	7.9	16,314
Connecticut	113	21,031	537	604	597	483	712	69.8	21,209
District of Columbia	39	4,854	803	821	657	456	859	69.7	21,261
Delaware	27	2,343	1,152	911	850	573	1,126	73	27,965
Florida	453	50,772	892	665	901	831	972	38.2	14,939
Georgia	199	24,768	803	732	738	642	833	62.2	15,620
Iowa	55	22,337	246	609	272	161	382	0	13,463
Illinois	595	76,690	776	771	676	623	728	7.5	12,660
Indiana	153	14,971	1,022	784	875	758	993	67.6	23,405
Kentucky	91	12,800	711	766	623	494	753	20.4	12,133
Louisiana	212	17,042	1,244	926	902	801	1,004	0	16,776
Massachusetts	138	33,603	411	575	480	387	573	32.6	21,020
Maryland	47	16,717	281	549	344	210	478	74.8	27,495
Michigan	422	47,546	888	697	855	784	925	65.4	9,038
Minnesota	87	25,773	338	696	326	232	420	63.8	23,196
Missouri	214	46,692	458	706	436	365	507	42.2	9,787
Mississippi	162	13,091	1,237	1,036	802	693	912	0	8,070
Montana	16	4,184	382	704	365	130	600	0	19,210
North Carolina	367	62,597	586	706	558	496	619	0	10,753
North Dakota	9	3,564	253	517	328	25	631	0	21,684
Nebraska	32	7,558	423	670	424	245	604	17.5	15,644
New Hampshire	35	5,469	640	671	641	429	853	0	22,911
New Jersey	312	40,110	778	647	808	727	888	76.8	17,702
New Mexico	4	1,896	211	367	386	-106	879	73.1	25,816
Nevada	53	5,908	897	774	779	590	968	55.1	15,728
New York	1,000	127,103	787	631	838	792	883	67	34,630
Ohio	415	63,316	655	848	519	464	574	73.5	17,259
Oklahoma	171	22,299	767	814	633	538	728	0	13,348
Oregon	55	10,528	522	678	518	365	670	70.9	18,798
Pennsylvania	402	31,202	1,288	727	1,190	1,105	1,275	53.9	26,699

Rhode Island	26	4,544	572	586	656	406	906	67.3	1,874
South Carolina	276	16,422	1,681	897	1,259	1,154	1,364	48.6	15,267
South Dakota	11	3,585	307	458	451	135	766	0	14,603
Tennessee	NR	28	NR	NR	NR	NR	NR	96.4	33,253
Texas	551	88,735	621	700	596	544	648	44.4	7,844
Utah	8	2,790	287	719	268	-20	555	17.1	15,831
Virginia	374	27,126	1,379	1,057	876	801	951	59.2	26,030
Vermont	25	4,691	533	673	532	303	761	56.7	4,456
Washington	146	43,046	339	587	388	307	470	58.3	17,792
Wisconsin	45	8,141	553	699	531	362	700	59.6	20,783
West Virginia	93	9,586	970	661	987	825	1,148	48.6	19,723
Wyoming	12	2,648	453	664	458	152	765	0	22,773

Sources: Mathematica analysis of 2010 HCBS Medicaid-only HCBS users. Data sources included the 2010 MAX PS, OT and IP files, MedPAR file, MBSF, and CCW conditions.

Proportion of Medicaid MCO Enrollment derived from Mathematica analysis of CMS's 2010 Medicaid Managed Care Enrollment Report, Summary Statistics as of June 30, 2010.

Total Medicaid HCBS Expenditures per person obtained from Kaiser Family Foundation, "Medicaid Home and Community-Based Services Programs: 2011 Data Update." Dec 22, 2014. Accessed on 9/16/2015 from <http://kff.org>

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**Table 3: 2009 Medicaid-Only Beneficiaries**

State	PrU Numerator	PrU Denominator	PrU Observed Rate	PrU Expected Rate	PrU Risk-Adjusted Rate	PrU 95% CI Lower Bound	PrU 95% CI Upper Bound	Proportion Medicaid MCO Enrollment, 2009	Total Medicaid HCBS Expenditures Per Person, 2009
National	2,115	466,978	453	419	466	446	485	47.7	16,219
Alaska	2	1,770	113	356	144	-201	488	0.0	29,582
Alabama	11	5,693	193	495	177	16	337	0.0	16,336
Arkansas	19	4,657	408	485	381	201	560	0.0	8,995
California	276	118,563	233	324	325	281	370	51.8	11,572
Colorado	27	7,176	376	470	363	217	509	9.5	15,801
Connecticut	24	5,457	440	393	507	324	690	75.2	21,440
District of Colum	27	2,672	1,010	726	630	439	822	62.8	18,539
Delaware	NR	755	NR	NR	NR	NR	NR	68.9	28,059
Florida	16	18,119	88	315	127	13	241	38.5	9,624
Georgia	88	7,961	1,105	564	888	762	1,014	60.5	12,965
Iowa	17	5,014	339	375	409	211	608	0.0	13,128
Idaho	3	3,375	89	344	117	-136	371	0.0	11,196
Illinois	296	31,855	929	502	838	771	905	7.7	12,212
Indiana	30	5,811	516	598	391	249	533	67.3	24,346
Kansas	26	7,170	363	409	401	243	559	47.4	16,955
Kentucky	13	6,797	191	537	161	21	302	20.7	11,294
Louisiana	92	11,481	801	507	716	604	828	0.0	18,483
Massachusetts	28	9,101	308	328	425	266	583	35.5	21,589
Maryland	22	2,087	1,054	750	636	424	849	74.9	27,211
Michigan	34	3,656	930	529	797	605	989	66.8	9,128
Minnesota	54	13,898	389	406	433	319	547	63.1	23,283
Missouri	85	15,285	556	422	597	491	703	44.8	10,242
Mississippi	50	3,248	1,539	933	747	594	900	0.0	7,321
Montana	10	2,446	409	438	423	162	684	0.0	18,213
North Carolina	137	25,347	540	517	474	399	548	0.0	9,856
North Dakota	NR	893	NR	NR	NR	-194	810	0.0	16,983
Nebraska	9	2,404	374	369	460	171	749	16.8	15,056
New Hampshire	11	2,005	549	315	788	441	1,134	0.0	22,587
New Jersey	27	4,291	629	468	609	418	800	74.9	15,291
New Mexico	NR	228	NR	NR	NR	NR	NR	74.2	25,665
Nevada	20	2,574	777	533	660	432	889	49.8	13,693
New York	130	37,809	344	309	503	423	584	65.1	33,742
Ohio	5	15,171	33	520	29	-67	125	70.4	16,584
Oklahoma	66	6,990	944	559	765	630	900	0.0	13,021

Oregon	9	2,884	312	414	341	93	590	71.3	18,387
Pennsylvania	15	5,943	252	479	238	81	396	50.3	26,348
Rhode Island	0	1,793	0	297	0	-377	377	67.6	18,736
South Carolina	71	5,230	1,358	677	908	767	1,050	44.8	15,790
South Dakota	NR	1,061	NR	NR	NR	NR	NR	0.0	11,902
Tennessee	NR	608	NR	NR	NR	NR	NR	94.2	36,268
Texas	102	20,467	498	404	559	465	654	42.7	7,779
Utah	1	1,632	61	323	86	-293	465	0.0	13,276
Virginia	123	8,909	1,381	568	1,102	982	1,221	57.3	26,437
Vermont	8	1,821	439	361	550	219	882	87.8	4,154
Washington	50	15,307	327	437	339	235	442	52.7	17,562
Wisconsin	19	3,798	500	405	559	340	778	57.8	20,232
West Virginia	44	4,789	919	473	880	700	1,061	46.0	18,579
Wyoming	NR	977	NR	NR	NR	NR	NR	0.0	24,887

Sources: Mathematica analysis of 2009 HCBS Medicaid-only HCBS users. Data sources included the 2009 MAX PS, OT and IP files, MBSF, and CCW conditions.

Proportion of Medicaid MCO Enrollment derived from Mathematica analysis of CMS's 2009 Medicaid Managed Care Enrollment Report, Summary Statistics as of June 30, 2009.

Total Medicaid HCBS Expenditures per person obtained from Kaiser Family Foundation, "Medicaid Home and Community-Based Services Programs: 2011 Data Update." Dec 22, 2014. Accessed on 9/16/2015 from <http://kff.org>

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## Appendix C: HCBS Pressure Ulcer Results, by State

**Table 4: 2009 Medicare-Medicaid Eligible Beneficiaries (Duals)**

State	PrU Numerator	PrU Denominator	PrU Observed Rate	PrU Expected Rate	PrU Risk-Adjusted Rate	PrU 95% CI Lower Bound	PrU 95% CI Upper Bound	Proportion Medicaid MCO Enrollment, 2009	Total Medicaid HCBS Expenditures Per Person, 2009
National	9,405	1,343,924	700	646	728	714	743	47.7	16,219
Alaska	20	4,204	476	656	508	251	764	0.0	29,582
Alabama	102	10,087	1,011	754	939	786	1,092	0.0	16,336
Arkansas	154	14,495	1,062	777	957	832	1,083	0.0	8,995
California	1,333	286,523	465	488	667	631	703	51.8	11,572
Colorado	80	19,024	421	746	394	283	506	9.5	15,801
Connecticut	103	20,587	500	585	599	476	722	75.2	21,440
District of Columr	42	3,893	1,079	814	927	692	1,163	62.8	18,539
Delaware	21	2,252	933	909	718	425	1,012	68.9	28,059
Florida	437	46,013	950	623	1,067	988	1,147	38.5	9,624
Georgia	152	15,815	961	798	843	725	962	60.5	12,965
Iowa	66	22,221	297	596	349	232	466	0.0	13,128
Idaho	28	7,739	362	626	404	211	597	0.0	11,196
Illinois	648	74,271	872	745	819	762	876	7.7	12,212
Indiana	141	14,947	943	796	830	709	951	67.3	24,346
Kansas	127	18,092	702	604	813	686	941	47.4	16,955
Kentucky	106	12,588	842	783	752	618	887	20.7	11,294
Louisiana	225	15,231	1,477	917	1,128	1,016	1,240	0.0	18,483
Massachusetts	155	34,088	455	582	547	451	643	35.5	21,589
Maryland	49	15,780	311	524	414	267	561	74.9	27,211
Michigan	408	46,578	876	667	919	843	995	66.8	9,128
Minnesota	84	23,939	351	701	350	248	452	63.1	23,283
Missouri	252	46,472	542	681	558	482	633	44.8	10,242
Mississippi	170	12,334	1,378	1,004	961	841	1,081	0.0	7,321
Montana	20	4,020	498	700	497	247	748	0.0	18,213
North Carolina	428	65,628	652	685	666	603	729	0.0	9,856
North Dakota	5	3,385	148	513	201	-122	524	0.0	16,983
Nebraska	34	7,832	434	648	469	282	656	16.8	15,056
New Hampshire	36	5,349	673	673	700	477	923	0.0	22,587
New Jersey	267	38,347	696	607	802	714	890	74.9	15,291
New Mexico	3	1,942	154	368	294	-213	801	74.2	25,665
Nevada	53	5,576	951	739	900	694	1,107	49.8	13,693
New York	1,027	125,863	816	609	938	889	986	65.1	33,742
Ohio	502	57,600	872	836	730	669	790	70.4	16,584
Oklahoma	170	22,655	750	771	681	580	782	0.0	13,021
Oregon	50	10,532	475	651	511	349	673	71.3	18,387

Pennsylvania	336	26,255	1,280	717	1,248	1,151	1,346	50.3	26,348
Rhode Island	25	4,166	600	584	720	449	990	67.6	18,736
South Carolina	254	16,373	1,551	870	1,248	1,136	1,359	44.8	15,790
South Dakota	10	3,561	281	444	442	107	778	0.0	11,902
Tennessee	NR	152	NR	NR	NR	NR	NR	94.2	36,268
Texas	501	81,145	617	638	677	618	736	42.7	7,779
Utah	10	2,947	339	652	364	58	671	0.0	13,276
Virginia	419	25,812	1,623	1,041	1,091	1,010	1,172	57.3	26,437
Vermont	23	4,853	474	628	528	284	772	87.8	4,154
Washington	187	41,441	451	564	560	472	648	52.7	17,562
Wisconsin	41	10,127	405	661	429	266	591	57.8	20,232
West Virginia	89	8,598	1,035	645	1,124	943	1,304	46.0	18,579
Wyoming	10	2,592	386	675	400	81	719	0.0	24,887

Sources: Mathematica analysis of 2009 HCBS Medicaid-only HCBS users. Data sources included the 2009 MAX PS, OT and IP files, MedPAR file, MBSF, and CCW conditions.

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