

Appendix D: Acute and Chronic HCBS Composite Results, by State

Table 1: 2010 Medicaid-Only Beneficiaries

State	Acute Numerator	Acute Denominator	Acute Observed Rate	Acute Expected Rate	Acute Risk-Adjusted Rate	Acute 95% CI Lower Bound	Acute 95% CI Upper Bound	Chronic Numerator
National	11,274	481,069	2,344	2,344	2,343	2,292	2,394	22,023
Alaska	42	2,004	2,096	2,076	2,366	1,552	3,180	60
Alabama	8	5,837	137	2,858	112	0	529	103
Arkansas	131	4,793	2,733	2,463	2,601	2,108	3,094	288
California	2,332	114,760	2,032	2,027	2,349	2,241	2,458	5,131
Colorado	167	8,080	2,067	2,225	2,177	1,766	2,587	229
Connecticut	199	5,875	3,387	2,469	3,215	2,768	3,663	470
District of Columbia	106	3,410	3,109	3,038	2,398	1,866	2,930	317
Delaware	NR	659	NR	NR	NR	NR	NR	NR
Florida	39	16,108	242	1,900	299	0	608	154
Georgia	8	13,969	57	2,729	49	0	330	252
Iowa	144	5,419	2,657	2,015	3,091	2,567	3,615	262
Illinois	1,085	28,903	3,754	2,667	3,298	3,101	3,496	2,150
Indiana	203	6,217	3,265	2,539	3,014	2,556	3,472	291
Kentucky	10	7,000	143	3,176	105	0	484	241
Louisiana	476	14,154	3,363	2,459	3,205	2,915	3,495	1,020
Massachusetts	305	11,518	2,648	2,389	2,598	2,275	2,921	415
Maryland	108	2,222	4,860	3,043	3,743	3,065	4,422	128
Michigan	100	4,006	2,496	2,153	2,717	2,119	3,316	148
Minnesota	293	15,153	1,934	2,256	2,008	1,714	2,302	474
Missouri	549	16,653	3,297	2,800	2,759	2,510	3,008	1,201
Mississippi	173	3,647	4,744	3,497	3,179	2,680	3,678	316
Montana	58	3,237	1,792	1,651	2,544	1,796	3,291	47
North Carolina	656	23,322	2,813	3,087	2,136	1,932	2,339	1,547
North Dakota	16	1,117	1,432	1,361	2,466	1,101	3,831	19
Nebraska	65	2,598	2,502	1,751	3,349	2,556	4,143	81
New Hampshire	57	2,168	2,629	1,974	3,122	2,297	3,947	65
New Jersey	124	4,630	2,678	2,583	2,429	1,939	2,920	346
New Mexico	NR	196	NR	NR	NR	NR	NR	NR
Nevada	88	2,686	3,276	2,881	2,665	2,039	3,291	187
New York	742	35,671	2,080	1,862	2,618	2,412	2,824	1,668
Ohio	627	16,293	3,848	2,819	3,199	2,939	3,459	1,017
Oklahoma	295	7,224	4,084	3,361	2,847	2,491	3,203	675
Oregon	28	2,551	1,098	1,876	1,371	584	2,159	63
Pennsylvania	142	6,496	2,186	2,308	2,219	1,758	2,681	285

Rhode Island	1	1,279	78	2,261	81	0	1,064	1
South Carolina	232	5,918	3,920	2,751	3,340	2,902	3,778	251
South Dakota	29	1,133	2,560	1,867	3,213	2,034	4,391	18
Tennessee	NR	206	NR	NR	NR	NR	NR	NR
Texas	490	23,140	2,118	2,027	2,448	2,198	2,697	591
Utah	21	1,641	1,280	1,375	2,182	1,069	3,295	16
Virginia	323	8,925	3,619	2,656	3,193	2,837	3,550	260
Vermont	35	1,800	1,944	1,841	2,475	1,485	3,465	62
Washington	356	15,603	2,282	2,384	2,243	1,959	2,527	531
Wisconsin	43	3,336	1,289	1,770	1,707	1,000	2,414	36
West Virginia	232	5,029	4,613	3,460	3,125	2,706	3,544	462
Wyoming	NR	1,021	NR	NR	NR	NR	NR	NR

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, Total Medicaid HCBS Expenditures per person obtained from Kaiser Family Foundation, "Medicaid Home and Community-Based Services Programs: 2011 Data Update."

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

For additional technical information, see "Risk Adjustment of HCBS Composite Measures, Volumes 1 and 2," available at <http://www.medicaid.gov/Medicaid-CHIP-Program>

Chronic Denominator	Chronic Observed Rate	Chronic Expected Rate	Chronic Risk-Adjusted Rate	Chronic 95% CI Lower Bound	Chronic 95% CI Upper Bound	Proportion Medicaid MCO Enrollment, 2010	Total Medicaid HCBS Expenditures Per Person, 2010
481,069	4,578	4,573	4,583	4,491	4,675	48.8	16,656
2,004	2,994	3,354	4,087	2,485	5,689	0.0	31,309
5,837	1,765	6,171	1,309	614	2,004	0.0	18,312
4,793	6,009	4,543	6,055	5,158	6,953	0.0	9,911
114,760	4,471	4,175	4,902	4,715	5,090	54.6	11,142
8,080	2,834	3,249	3,994	3,177	4,811	7.9	16,314
5,875	8,000	5,544	6,606	5,823	7,390	69.8	21,209
3,410	9,296	6,847	6,215	5,307	7,124	69.7	21,261
659	NR	NR	NR	NR	NR	73.0	27,965
16,108	956	2,852	1,535	908	2,162	38.2	14,939
13,969	1,804	5,636	1,465	980	1,951	62.2	15,620
5,419	4,835	3,935	5,625	4,679	6,571	0.0	13,463
28,903	7,439	5,270	6,462	6,098	6,826	7.5	12,660
6,217	4,681	4,164	5,146	4,259	6,032	67.6	23,405
7,000	3,443	7,053	2,235	1,595	2,874	20.4	12,133
14,154	7,206	5,305	6,218	5,727	6,710	0.0	16,776
11,518	3,603	4,390	3,757	3,163	4,352	32.6	21,020
2,222	5,761	3,122	8,447	6,871	10,024	74.8	27,495
4,006	3,694	3,773	4,483	3,357	5,610	65.4	9,038
15,153	3,128	3,634	3,941	3,360	4,521	63.8	23,196
16,653	7,212	6,431	5,134	4,723	5,544	42.2	9,787
3,647	8,665	6,723	5,900	5,031	6,769	0.0	8,070
3,237	1,452	2,476	2,684	1,181	4,187	0.0	19,210
23,322	6,633	7,211	4,211	3,869	4,554	0.0	10,753
1,117	1,701	2,223	3,503	899	6,106	0.0	21,684
2,598	3,118	2,619	5,449	3,885	7,013	17.5	15,644
2,168	2,998	3,717	3,692	2,098	5,286	0.0	22,911
4,630	7,473	5,556	6,157	5,292	7,022	76.8	17,702
196	NR	NR	NR	NR	NR	73.1	25,816
2,686	6,962	6,257	5,093	3,991	6,196	55.1	15,728
35,671	4,676	3,112	6,879	6,469	7,288	67.0	34,630
16,293	6,242	5,090	5,614	5,148	6,080	73.5	17,259
7,224	9,344	8,541	5,008	4,427	5,589	0.0	13,348
2,551	2,470	3,064	3,690	2,197	5,182	70.9	18,798
6,496	4,387	4,107	4,890	4,049	5,731	53.9	26,699

1,279	78	4,888	73	0	1,762	67.3	1,874
5,918	4,241	4,536	4,280	3,428	5,133	48.6	15,267
1,133	1,589	2,545	2,858	405	5,311	0.0	14,603
206	NR	NR	NR	NR	NR	96.4	33,253
23,140	2,554	3,635	3,217	2,758	3,676	44.4	7,844
1,641	975	1,521	2,935	354	5,517	17.1	15,831
8,925	2,913	4,033	3,307	2,587	4,027	59.2	26,030
1,800	3,444	2,484	6,349	4,405	8,293	56.7	4,456
15,603	3,403	4,640	3,358	2,845	3,871	58.3	17,792
3,336	1,079	2,347	2,105	626	3,584	59.6	20,783
5,029	9,187	8,771	4,795	4,117	5,473	48.6	19,723
1,021	NR	NR	NR	NR	NR	0.0	22,773

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n-Information/By-Topics/Long-Term-Services-and-Supports/Balancing/Money-Follows-the-Person.html.

Appendix D: Acute and Chronic HCBS Composite Results, by State

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

State	Acute Numerator	Acute Denominator	Acute Observed Rate	Acute Expected Rate	Acute Risk-Adjusted Rate	Acute 95% CI Lower Bound	Acute 95% CI Upper Bound	Chronic Numerator
National	66,154	1,353,070	4,889	4,891	4,888	4,846	4,930	97,638
Alaska	202	4,581	4,410	4,880	4,418	3,706	5,130	268
Alabama	649	10,295	6,304	5,448	5,658	5,204	6,112	930
Arkansas	1,135	14,872	7,632	6,060	6,157	5,799	6,515	1,325
California	8,014	275,478	2,909	4,065	3,499	3,400	3,598	14,599
Colorado	900	19,737	4,560	5,102	4,370	4,031	4,708	875
Connecticut	1,148	21,031	5,459	4,997	5,340	5,010	5,670	1,336
District of Columbi	203	4,854	4,182	5,038	4,059	3,374	4,744	582
Delaware	139	2,343	5,933	4,932	5,882	4,882	6,881	126
Florida	3,406	50,772	6,708	5,376	6,101	5,895	6,306	3,927
Georgia	1,085	24,768	4,381	4,722	4,536	4,223	4,848	1,213
Iowa	1,187	22,337	5,314	4,926	5,275	4,953	5,597	1,368
Illinois	3,779	76,690	4,928	5,091	4,732	4,561	4,904	6,805
Indiana	953	14,971	6,366	4,539	6,857	6,443	7,271	1,126
Kentucky	946	12,800	7,391	5,996	6,026	5,635	6,417	1,152
Louisiana	1,246	17,042	7,311	5,734	6,234	5,888	6,581	1,555
Massachusetts	1,837	33,603	5,467	4,539	5,889	5,616	6,162	2,393
Maryland	718	16,717	4,295	4,330	4,849	4,450	5,248	754
Michigan	2,206	47,546	4,640	4,647	4,882	4,654	5,109	4,520
Minnesota	658	25,773	2,553	3,566	3,500	3,144	3,856	872
Missouri	2,430	46,692	5,204	5,766	4,413	4,205	4,621	4,012
Mississippi	1,094	13,091	8,357	6,412	6,372	6,000	6,745	1,425
Montana	221	4,184	5,282	4,652	5,551	4,783	6,319	177
North Carolina	3,519	62,597	5,622	5,601	4,907	4,726	5,088	5,208
North Dakota	114	3,564	3,199	3,717	4,207	3,290	5,124	115
Nebraska	404	7,558	5,345	4,520	5,782	5,204	6,360	388
New Hampshire	323	5,469	5,906	4,781	6,039	5,376	6,703	406
New Jersey	1,819	40,110	4,535	4,927	4,500	4,261	4,739	3,271
New Mexico	28	1,896	1,477	2,298	3,141	1,509	4,774	16
Nevada	328	5,908	5,552	5,394	5,032	4,431	5,633	426
New York	5,848	127,103	4,601	5,062	4,444	4,311	4,577	9,388
Ohio	3,914	63,316	6,182	6,030	5,012	4,837	5,187	5,960
Oklahoma	1,664	22,299	7,462	6,669	5,471	5,188	5,753	2,393
Oregon	479	10,528	4,550	4,567	4,870	4,388	5,353	506
Pennsylvania	1,945	31,203	6,233	4,439	6,866	6,579	7,154	2,813

Rhode Island	215	4,544	4,732	4,519	5,119	4,375	5,863	299
South Carolina	1,101	16,422	6,704	5,007	6,546	6,172	6,920	1,107
South Dakota	168	3,585	4,686	3,067	7,470	6,464	8,476	116
Tennessee	NR	28	NR	NR	NR	NR	NR	NR
Texas	5,075	88,735	5,719	4,770	5,863	5,699	6,027	7,809
Utah	99	2,790	3,548	4,263	4,069	3,094	5,044	38
Virginia	1,651	27,126	6,086	6,588	4,517	4,261	4,773	1,944
Vermont	274	4,691	5,841	4,616	6,186	5,463	6,910	250
Washington	1,795	43,046	4,170	4,230	4,819	4,572	5,067	2,167
Wisconsin	286	8,141	3,513	3,996	4,298	3,708	4,888	295
West Virginia	784	9,586	8,179	5,160	7,750	7,267	8,232	1,231
Wyoming	161	2,648	6,080	4,645	6,400	5,430	7,369	152

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 cond Proportion of Medicaid MCO Enrollment derived from Mathematica analysis of CMS's 2010 Medicaid Managed Care Enrollment Report, Summary Statistics as of June 30, Total Medicaid HCBS Expenditures per person obtained from Kaiser Family Foundation, "Medicaid Home and Community-Based Services Programs: 2011 Data Update."

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

For additional technical information, see "Risk Adjustment of HCBS Composite Measures, Volumes 1 and 2," available at <http://www.medicaid.gov/Medicaid-CHIP-Program>

Chronic Denominator	Chronic Observed Rate	Chronic Expected Rate	Chronic Risk-Adjusted Rate	Chronic 95% CI Lower Bound	Chronic 95% CI Upper Bound	Proportion Medicaid MCO Enrollment, 2010	Total Medicaid HCBS Expenditures Per Person, 2010
1,353,070	7,216	7,208	7,224	7,164	7,284	48.8	16,656
4,581	5,850	7,422	5,688	4,672	6,705	0	31,309
10,295	9,034	9,026	7,222	6,589	7,855	0	18,312
14,872	8,909	9,056	7,099	6,585	7,614	0	9,911
275,478	5,300	5,848	6,539	6,396	6,683	54.6	11,142
19,737	4,433	7,034	4,548	4,046	5,049	7.9	16,314
21,031	6,353	7,099	6,457	5,973	6,941	69.8	21,209
4,854	11,990	8,461	10,226	9,277	11,175	69.7	21,261
2,343	5,378	6,885	5,637	4,151	7,122	73	27,965
50,772	7,735	6,116	9,125	8,796	9,454	38.2	14,939
24,768	4,897	7,223	4,893	4,444	5,342	62.2	15,620
22,337	6,124	7,704	5,737	5,277	6,196	0	13,463
76,690	8,873	6,966	9,192	8,932	9,453	7.5	12,660
14,971	7,521	6,358	8,537	7,911	9,162	67.6	23,405
12,800	9,000	9,952	6,526	5,976	7,076	20.4	12,133
17,042	9,125	9,583	6,871	6,393	7,348	0	16,776
33,603	7,121	5,572	9,222	8,793	9,650	32.6	21,020
16,717	4,510	5,383	6,046	5,421	6,672	74.8	27,495
47,546	9,507	8,393	8,173	7,864	8,482	65.4	9,038
25,773	3,383	4,610	5,296	4,722	5,870	63.8	23,196
46,692	8,592	10,005	6,197	5,912	6,483	42.2	9,787
13,091	10,885	10,759	7,301	6,791	7,811	0	8,070
4,184	4,230	6,293	4,851	3,678	6,024	0	19,210
62,597	8,320	9,175	6,543	6,290	6,797	0	10,753
3,564	3,227	4,450	5,232	3,779	6,686	0	21,684
7,558	5,134	6,167	6,007	5,136	6,877	17.5	15,644
5,469	7,424	7,159	7,483	6,511	8,455	0	22,911
40,110	8,155	6,603	8,912	8,554	9,270	76.8	17,702
1,896	844	1,643	3,706	360	7,053	73.1	25,816
5,908	7,211	7,553	6,889	5,999	7,779	55.1	15,728
127,103	7,386	7,230	7,372	7,178	7,566	67	34,630
63,316	9,413	9,384	7,238	6,988	7,488	73.5	17,259
22,299	10,731	13,139	5,894	5,525	6,263	0	13,348
10,528	4,806	5,920	5,858	5,118	6,599	70.9	18,798
31,203	9,015	6,245	10,417	9,990	10,845	53.9	26,699

4,544	6,580	6,139	7,735	6,612	8,858	67.3	1,874
16,422	6,741	7,101	6,851	6,296	7,405	48.6	15,267
3,585	3,236	3,194	7,309	5,606	9,013	0	14,603
28	NR	NR	NR	NR	NR	96.4	33,253
88,735	8,800	7,349	8,641	8,409	8,872	44.4	7,844
2,790	1,362	4,360	2,254	607	3,902	17.1	15,831
27,126	7,167	8,500	6,084	5,687	6,481	59.2	26,030
4,691	5,329	5,614	6,850	5,721	7,978	56.7	4,456
43,046	5,034	5,748	6,319	5,950	6,689	58.3	17,792
8,141	3,624	5,085	5,143	4,224	6,061	59.6	20,783
9,586	12,842	9,178	10,096	9,443	10,750	48.6	19,723
2,648	5,740	6,903	6,000	4,601	7,399	0	22,773

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Appendix D: Acute and Chronic HCBS Composite Results, by State

Table 3: 2009 Medicaid-Only Beneficiaries

State	Acute Numerator	Acute Denominator	Acute Observed Rate	Acute Expected Rate	Acute Risk-Adjusted Rate	Acute 95% CI Lower Bound	Acute 95% CI Upper Bound	Chronic Numerator	Chronic Denominator
National	12,206	473,803	2,576	2,012	3,299	2,517	2,636	22,905	473,803
Alaska	32	1,783	1,795	1,828	2,529	1,536	3,522	44	1,783
Alabama	5	5,716	87	2,475	91	0	578	176	5,716
Arkansas	144	4,704	3,061	2,134	3,695	3,121	4,269	261	4,704
California	2,623	121,391	2,161	1,772	3,141	3,020	3,263	5,732	121,391
Colorado	201	7,509	2,677	1,960	3,518	3,030	4,006	189	7,509
Connecticut	190	5,457	3,482	2,154	4,165	3,625	4,704	388	5,457
District of Colurn	95	2,673	3,554	2,579	3,551	2,849	4,253	240	2,673
Delaware	NR	790	NR	NR	NR	NR	NR	NR	790
Florida	39	18,742	208	1,417	378	23	734	140	18,742
Georgia	184	7,992	2,302	2,122	2,795	2,331	3,258	239	7,992
Iowa	137	5,224	2,623	1,737	3,889	3,281	4,497	208	5,224
Idaho	89	3,407	2,612	1,838	3,661	2,931	4,392	113	3,407
Illinois	1,094	31,948	3,424	2,237	3,944	3,725	4,163	2,627	31,948
Indiana	201	5,826	3,450	2,246	3,957	3,424	4,490	267	5,826
Kansas	223	7,204	3,096	2,127	3,748	3,274	4,223	383	7,204
Kentucky	13	6,841	190	2,875	170	0	597	220	6,841
Louisiana	409	12,061	3,391	2,144	4,074	3,712	4,437	950	12,061
Massachusetts	318	9,150	3,475	1,970	4,546	4,117	4,975	420	9,150
Maryland	93	2,098	4,433	2,708	4,217	3,427	5,008	126	2,098
Michigan	68	3,709	1,833	2,032	2,324	1,626	3,022	121	3,709
Minnesota	342	13,917	2,457	1,972	3,210	2,856	3,564	465	13,917
Missouri	549	15,310	3,586	2,386	3,872	3,570	4,173	1,021	15,310
Mississippi	188	3,259	5,769	2,876	5,168	4,553	5,783	325	3,259
Montana	53	2,843	1,864	1,494	3,215	2,318	4,111	46	2,843
North Carolina	744	25,456	2,923	2,583	2,915	2,686	3,143	1,643	25,456
North Dakota	NR	1,060	NR	NR	NR	NR	NR	NR	1,060
Nebraska	71	2,437	2,913	1,625	4,619	3,695	5,544	87	2,437
New Hampshire	49	2,119	2,312	1,799	3,311	2,373	4,250	99	2,119
New Jersey	132	4,310	3,063	2,231	3,536	2,946	4,127	248	4,310
New Mexico	NR	230	NR	NR	NR	NR	NR	NR	1,060
Nevada	86	2,576	3,339	2,477	3,472	2,735	4,209	151	2,576
New York	821	38,126	2,153	1,626	3,412	3,182	3,642	1,680	38,126
Ohio	578	15,203	3,802	2,480	3,950	3,645	4,255	1,016	15,203
Oklahoma	340	7,026	4,839	2,964	4,205	3,794	4,617	645	7,026

Oregon	49	2,885	1,698	1,634	2,678	1,833	3,523	83	2,885
Pennsylvania	171	6,052	2,826	1,987	3,663	3,120	4,206	275	6,052
Rhode Island	13	1,793	725	1,720	1,086	57	2,115	32	1,793
South Carolina	202	5,257	3,842	2,428	4,077	3,551	4,604	267	5,257
South Dakota	30	1,064	2,820	1,656	4,385	2,984	5,787	17	1,064
Tennessee	NR	611	NR	NR	NR	NR	NR	NR	611
Texas	505	20,567	2,455	1,754	3,607	3,303	3,911	563	20,567
Utah	28	1,635	1,713	1,193	3,698	2,390	5,005	11	1,635
Virginia	372	9,033	4,118	2,386	4,446	4,042	4,849	273	9,033
Vermont	30	1,917	1,565	1,580	2,552	1,414	3,690	57	1,917
Washington	336	15,315	2,194	2,024	2,793	2,459	3,126	511	15,315
Wisconsin	60	3,805	1,577	1,688	2,407	1,684	3,130	55	3,805
West Virginia	209	4,793	4,361	2,941	3,819	3,323	4,315	430	4,793
Wyoming	NR	979	NR	NR	NR	NR	NR	NR	979

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 Jun
Total Medicaid HCBS Expenditures per person obtained from Kaiser Family Foundation, "Medicaid Home and Community-Based Services Programs: 2011 Data Upd

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

For additional technical information, see "Risk Adjustment of HCBS Composite Measures, Volumes 1 and 2," available at <http://www.medicaid.gov/Medicaid-CHIP-Pr>

Chronic Observed Rate	Chronic Expected Rate	Chronic Risk-Adjusted Rate	Chronic 95% CI Lower Bound	Chronic 95% CI Upper Bound	Proportion Medicaid MCO Enrollment, 2009	Total Medicaid HCBS Expenditures Per Person, 2009
4,834	3,745	6,240	4,731	4,938	47.7	16,219
2,468	2,819	4,232	2,370	6,093	0.0	29,582
3,079	5,122	2,906	2,117	3,695	0.0	16,336
5,548	3,640	7,369	6,337	8,401	0.0	8,995
4,722	3,421	6,673	6,468	6,878	51.8	11,572
2,517	2,790	4,361	3,421	5,300	9.5	15,801
7,110	4,474	7,683	6,760	8,605	75.2	21,440
8,979	5,150	8,428	7,241	9,615	62.8	18,539
NR	NR	NR	NR	NR	68.9	28,059
747	2,061	1,752	1,064	2,440	38.5	9,624
2,990	3,390	4,264	3,413	5,115	60.5	12,965
3,982	3,361	5,728	4,669	6,786	0.0	13,128
3,317	3,109	5,157	3,827	6,487	0.0	11,196
8,223	4,320	9,202	8,814	9,591	7.7	12,212
4,583	3,649	6,072	5,076	7,067	67.3	24,346
5,316	4,430	5,801	5,002	6,600	47.4	16,955
3,216	6,425	2,420	1,731	3,108	20.7	11,294
7,877	4,483	8,494	7,903	9,086	0.0	18,483
4,590	3,401	6,524	5,748	7,299	35.5	21,589
6,006	2,740	10,596	8,835	12,356	74.9	27,211
3,262	3,444	4,579	3,311	5,846	66.8	9,128
3,341	3,129	5,161	4,492	5,831	63.1	23,283
6,669	5,076	6,351	5,863	6,839	44.8	10,242
9,972	5,311	9,077	8,037	10,117	0.0	7,321
1,618	1,977	3,956	2,159	5,753	0.0	18,213
6,454	5,632	5,540	5,164	5,915	0.0	9,856
NR	NR	NR	NR	NR	0.0	16,983
3,570	2,403	7,183	5,404	8,962	16.8	15,056
4,672	3,391	6,660	4,967	8,353	0.0	22,587
5,754	4,470	6,224	5,206	7,241	74.9	15,291
NR	NR	NR	NR	NR	74.2	25,665
5,862	4,971	5,701	4,433	6,969	49.8	13,693
4,406	2,637	8,077	7,640	8,513	65.1	33,742
6,683	4,420	7,310	6,779	7,841	70.4	16,584
9,180	7,084	6,265	5,617	6,912	0.0	13,021

2,877	2,541	5,473	3,891	7,056	71.3	18,387
4,544	3,295	6,666	5,679	7,653	50.3	26,348
1,785	3,194	2,702	927	4,476	67.6	18,736
5,079	3,938	6,234	5,259	7,210	44.8	15,790
1,598	2,087	3,700	778	6,622	0.0	11,902
NR	NR	NR	NR	NR	94.2	36,268
2,737	3,154	4,195	3,662	4,728	42.7	7,779
673	1,232	2,640	0	5,602	0.0	13,276
3,022	3,664	3,987	3,218	4,757	57.3	26,437
2,973	2,051	7,009	4,889	9,129	87.8	4,154
3,337	3,683	4,380	3,795	4,966	52.7	17,562
1,445	2,146	3,256	1,757	4,754	57.8	20,232
8,971	7,137	6,077	5,304	6,849	46.0	18,579
NR	NR	NR	NR	NR	0.0	24,887

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Appendix D: Acute and Chronic HCBS Composite Results, by State

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

State	Acute Numerator	Acute Denominator	Acute Observed Rate	Acute Expected Rate	Acute Risk-Adjusted Rate	Acute 95% CI Lower Bound	Acute 95% CI Upper Bound	Chronic Numerator	Chronic Denominator
National	66,935	1,343,928	4,981	4,341	5,714	4,936	5,025	99,861	1,343,928
Alaska	205	4,204	4,876	4,480	5,421	4,091	5,662	259	4,204
Alabama	616	10,087	6,107	4,925	6,175	5,619	6,595	890	10,087
Arkansas	1,194	14,495	8,237	5,479	7,488	7,852	8,623	1,434	14,495
California	8,777	286,524	3,063	3,637	4,195	2,959	3,168	15,726	286,524
Colorado	915	19,025	4,809	4,504	5,318	4,439	5,180	919	19,025
Connecticut	1,098	20,587	5,333	4,490	5,916	4,977	5,690	1,474	20,587
District of Colurr	201	3,893	5,163	4,564	5,634	4,350	5,976	513	3,893
Delaware	135	2,252	5,995	4,196	7,115	4,880	7,109	145	2,252
Florida	2,948	46,014	6,407	4,624	6,901	6,171	6,642	3,259	46,014
Georgia	998	15,815	6,310	4,413	7,122	5,899	6,722	949	15,815
Iowa	1,194	22,221	5,373	4,441	6,026	5,029	5,718	1,456	22,221
Idaho	354	7,739	4,574	4,201	5,423	3,974	5,174	367	7,739
Illinois	3,760	74,271	5,063	4,479	5,629	4,875	5,250	7,026	74,271
Indiana	933	14,947	6,242	4,031	7,712	5,798	6,686	1,172	14,947
Kansas	1,004	18,093	5,549	3,810	7,254	5,137	5,961	1,213	18,093
Kentucky	953	12,588	7,571	5,603	6,730	7,158	7,983	1,227	12,588
Louisiana	1,175	15,231	7,715	5,177	7,422	7,324	8,105	1,426	15,231
Massachusetts	1,798	34,088	5,275	4,262	6,163	4,991	5,558	2,415	34,088
Maryland	656	15,780	4,157	3,853	5,374	3,717	4,597	751	15,780
Michigan	2,222	46,578	4,770	4,114	5,776	4,523	5,018	4,882	46,578
Minnesota	684	23,939	2,857	3,116	4,567	2,457	3,257	899	23,939
Missouri	2,601	46,472	5,597	5,087	5,479	5,373	5,821	4,162	46,472
Mississippi	1,027	12,334	8,327	5,790	7,162	7,919	8,735	1,368	12,334
Montana	245	4,020	6,095	4,150	7,314	5,256	6,933	220	4,020
North Carolina	3,710	65,628	5,653	4,911	5,733	5,462	5,844	5,616	65,628
North Dakota	104	3,385	3,072	3,334	4,589	2,065	4,080	107	3,385
Nebraska	470	7,832	6,001	4,170	7,167	5,403	6,599	383	7,832
New Hampshire	281	5,349	5,253	4,334	6,037	4,540	5,966	360	5,349
New Jersey	1,698	38,347	4,428	4,377	5,039	4,166	4,690	3,194	38,347
New Mexico	63	1,942	3,244	2,126	7,598	1,550	4,938	17	1,942
Nevada	297	5,576	5,326	4,737	5,600	4,658	5,995	408	5,576
New York	5,844	125,863	4,643	4,435	5,214	4,499	4,788	9,615	125,863
Ohio	3,690	57,600	6,406	5,487	5,814	6,212	6,601	5,346	57,600
Oklahoma	1,744	22,655	7,698	5,805	6,605	7,396	8,000	2,573	22,655
Oregon	450	10,532	4,273	4,241	5,018	3,765	4,780	509	10,532

Pennsylvania	1,759	26,255	6,700	4,094	8,151	6,369	7,030	2,410	26,255
Rhode Island	168	4,166	4,033	3,834	5,238	3,177	4,888	247	4,166
South Carolina	1,161	16,373	7,091	4,484	7,875	6,690	7,492	1,171	16,373
South Dakota	182	3,561	5,111	2,845	8,946	4,048	6,174	151	3,561
Tennessee	NR	152	NR	NR	NR	NR	NR	NR	152
Texas	4,528	81,145	5,580	4,223	6,581	5,396	5,764	7,424	81,145
Utah	94	2,947	3,190	3,923	4,049	2,187	4,192	45	2,947
Virginia	1,579	25,812	6,117	6,087	5,005	5,841	6,393	1,937	25,812
Vermont	279	4,853	5,749	4,194	6,827	4,993	6,505	250	4,853
Washington	1,805	41,441	4,356	3,712	5,844	4,083	4,628	2,299	41,441
Wisconsin	378	10,127	3,733	3,489	5,328	3,158	4,307	318	10,127
West Virginia	785	8,598	9,130	4,652	9,776	8,587	9,673	1,108	8,598
Wyoming	166	2,592	6,404	4,072	7,834	5,346	7,462	219	2,592

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 Proportion of Medicaid MCO Enrollment derived from Mathematica analysis of CMS's 2009 Medicaid Managed Care Enrollment Report, Summary Statistics as of Jun Total Medicaid HCBS Expenditures per person obtained from Kaiser Family Foundation, "Medicaid Home and Community-Based Services Programs: 2011 Data Update".

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

For additional technical information, see "Risk Adjustment of HCBS Composite Measures, Volumes 1 and 2," available at <http://www.medicaid.gov/Medicaid-CHIP-Pr>

Chronic Observed Rate	Chronic Expected Rate	Chronic Risk-Adjusted Rate	Chronic 95% CI Lower Bound	Chronic 95% CI Upper Bound	Proportion Medicaid MCO Enrollment, 2009	Total Medicaid HCBS Expenditures Per Person, 2009
7,431	6,129	9,009	7,364	7,497	47.7	16,219
6,161	6,630	6,905	5,022	7,299	0.0	29,582
8,823	7,727	8,485	8,128	9,519	0.0	16,336
9,893	7,854	9,360	9,328	10,458	0.0	8,995
5,489	4,859	8,394	5,333	5,645	51.8	11,572
4,830	6,014	5,968	4,272	5,389	9.5	15,801
7,160	6,229	8,541	6,629	7,690	75.2	21,440
13,177	7,232	13,539	12,027	14,328	62.8	18,539
6,439	5,696	8,400	4,750	8,127	68.9	28,059
7,083	5,083	10,354	6,699	7,466	38.5	9,624
6,001	6,003	7,427	5,378	6,623	60.5	12,965
6,552	6,779	7,182	6,057	7,047	0.0	13,128
4,742	5,925	5,947	3,844	5,640	0.0	11,196
9,460	5,975	11,765	9,170	9,750	7.7	12,212
7,841	5,671	10,274	7,170	8,512	67.3	24,346
6,704	5,780	8,618	6,103	7,305	47.4	16,955
9,747	9,383	7,719	9,169	10,326	20.7	11,294
9,362	8,300	8,382	8,817	9,908	0.0	18,483
7,085	4,800	10,968	6,622	7,547	35.5	21,589
4,759	4,687	7,544	4,062	5,457	74.9	27,211
10,481	7,031	11,077	10,138	10,825	66.8	9,128
3,755	3,970	7,028	3,106	4,405	63.1	23,283
8,956	8,426	7,898	8,642	9,270	44.8	10,242
11,091	9,394	8,773	10,525	11,657	0.0	7,321
5,473	5,471	7,432	4,180	6,765	0.0	18,213
8,557	7,817	8,135	8,287	8,828	0.0	9,856
3,161	3,817	6,154	1,533	4,789	0.0	16,983
4,890	5,687	6,390	3,985	5,796	16.8	15,056
6,730	6,364	7,858	5,680	7,781	0.0	22,587
8,329	5,586	11,079	7,928	8,731	74.9	15,291
875	1,958	3,323	0	3,943	74.2	25,665
7,317	6,278	8,660	6,307	8,327	49.8	13,693
7,639	6,082	9,334	7,425	7,854	65.1	33,742
9,281	8,246	8,363	8,999	9,563	70.4	16,584
11,357	11,197	7,537	10,958	11,757	0.0	13,021
4,833	5,270	6,814	4,041	5,625	71.3	18,387

9,179	5,525	12,346	8,678	9,680	50.3	26,348
5,929	4,995	8,820	4,600	7,258	67.6	18,736
7,152	6,443	8,248	6,561	7,743	44.8	15,790
4,240	2,818	11,183	2,412	6,068	0.0	11,902
NR	NR	NR	NR	NR	94.2	36,268
9,149	6,317	10,762	8,886	9,412	42.7	7,779
1,527	3,957	2,868	-169	3,223	0.0	13,276
7,504	7,593	7,344	7,068	7,940	57.3	26,437
5,151	4,934	7,758	3,956	6,347	87.8	4,154
5,548	4,597	8,968	5,123	5,972	52.7	17,562
3,140	4,058	5,749	2,211	4,069	57.8	20,232
12,887	8,022	11,937	12,140	13,633	46.0	18,579
8,449	5,834	10,761	6,890	10,008	0.0	24,887

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