

Long-Term Care Bed Need Projections for Horizon Year 2018 Using 5 different Methods, each Adjusted to Disability Rates

Methodological Notes

Disability: American Community Survey's (ACS) 5-year (2010-2014) Estimate Disability Rates
ACS considers respondents (non-institutionalized) who report anyone of the following six disability types to have a disability:

- **Hearing difficulty** deaf or having serious difficulty hearing (DEAR).
- **Vision difficulty** blind or having serious difficulty seeing, even when wearing glasses (DEYE).
- **Cognitive difficulty** Because of a physical, mental, or emotional problem, having difficulty remembering, concentrating, or making decisions (DREM).
- **Ambulatory difficulty** Having serious difficulty walking or climbing stairs (DPHY).
- **Self-care difficulty** Having difficulty bathing or dressing (DDRS).
- **Independent living difficulty** Because of a physical, mental, or emotional problem, having difficulty doing errands alone such as visiting a doctor's office or shopping (DOUT).

Proj: Projection (non-adjusted)

DAProj: Disability-Adjusted Projection

N/E: Need (when number is positive) and Excess (when Number is negative)

Disability-Adjusted Coefficient (DAC): DAC is defined as percentage of number of disabled persons in a hypothetical 100 population for each county.

$$DAC_i = [(D_i/P_i) / (\sum (D_i/P_i))] \times 100$$

where, D_i is number of disabled persons in county i and P_i is number of population of county i .

DAProj is computed in 2 steps:

(1) $DAC_i \times Proj_i$

(2) *Raking Procedure* used to control the total DAdj-Projected number of beds by the total Projected number of beds: $DAProj_i = DAC_i \times Proj_i \times (\text{Total Proj}) / (\text{Total } DAC \times Proj)$

CIM-0 : Current Illinois Methodology as defined in 77 Ill. Adm. Code 1125.210.

CIM-1: Modified Current Illinois Methodology-1, which is CIM-0 without the minimum (60%) and maximum (160%) criteria. It utilizes the HPA's base-use rates as the projected rates.

CIM-2: Modified Current Illinois Methodology-2, which is CIM-0, but it replaces the 60%-160% criteria with a 30%-130% criteria (obtained upon several optimization trials) when computing projected use rates.

CIM-3: Modified Current Illinois Methodology-3 (CIM-3), which is CIM-0, but it replaces the 60%-160% criteria with a 30%-150% assumption (obtained upon several optimization trials) when computing projected-use rates and the 90% occupancy factor with a 95% occupancy factor.

OMAI: Ohio Methodology Adapted to Illinois data, where a flat state need rate is used to project beds for each HPA.

Findings:

DAProjCIM-1 outperformed any other methods, creating bed need for 50 HPAs (figure 1) , of which 44 have the highest disability rates (figure 2). The adjustment moved 37 HPAs from excess to need status; 34 of these HPAs are located in the rural area and 3 are in the urban area (figure 3).

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	CIM-0 (60%-160%, 90%) , 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
HSA-1			8.60	6,074	5,518	6,047	-556	-27
	Boone	9.00	0.70	279	361	291	82	12
	Carroll	15.61	1.22	155	130	182	-25	27
	Dekalb	8.52	0.67	742	767	586	25	-156
	JoDaviess	12.01	0.94	155	177	190	22	35
	Lee	11.74	0.92	342	274	288	-68	-54
	Ogle	10.71	0.84	565	537	515	-28	-50
	Stephenson	14.63	1.15	637	579	760	-58	123
	Whiteside	14.63	1.15	857	595	781	-262	-76
	Winnebago	13.06	1.02	2342	2099	2456	-243	114
HSA-2			9.76	7937	6956	7538	-981	-399
	Bureau/Putnam	12.51	0.98	377	385	431	8	54
	Fulton	14.66	1.15	603	455	598	-148	-5
	Henderson/Warren	13.08	1.02	218	168	197	-50	-21
	Knox	14.98	1.17	950	739	992	-211	42
	Lasalle	12.45	0.97	1391	1223	1364	-168	-27
	Marshall/Stark	14.39	1.13	427	306	394	-121	-33
	McDonough	11.09	0.87	360	341	339	-19	-21
	Peoria	11.09	0.87	1765	1618	1608	-147	-157
	Tazewell	11.07	0.87	1256	1128	1119	-128	-137
	Woodford	9.31	0.73	590	593	495	3	-95
HSA-3			16.53	7119	5750	7208	-1369	89
	Adams	13.62	1.07	1499	1078	1315	-421	-184
	Brown/Schuyler	13.40	1.05	186	147	177	-39	-9
	Calhoun/Pike	15.51	1.21	337	264	367	-73	30
	Cass	13.17	1.03	150	153	180	3	30
	Christian	14.20	1.11	472	373	474	-99	2
	Greene	15.74	1.23	119	115	162	-4	43
	Hancock	14.31	1.12	184	150	193	-34	9
	Jersey	10.66	0.83	369	323	308	-46	-61
	Logan	14.85	1.16	468	384	510	-84	42

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	CIM-0 (60%-160%, 90%) , 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
	Macoupin	15.33	1.20	744	524	719	-220	-25
	Mason	16.43	1.29	164	120	176	-44	12
	Menard	11.78	0.92	106	114	120	8	14
	Montgomery	14.05	1.10	490	379	477	-111	-13
	Morgan/Scott	14.32	1.12	561	466	597	-95	36
	Sangamon	13.75	1.08	1270	1162	1431	-108	161
HSA-4			14.97	8180	6761	7478	-1419	-702
	Champaign	8.60	0.67	908	888	684	-20	-224
	Clark	14.51	1.14	245	224	291	-21	46
	Coles/Cumberland	14.09	1.10	939	674	851	-265	-88
	Dewitt	13.03	1.02	190	207	242	17	52
	Douglas	10.28	0.80	233	201	185	-32	-48
	Edgar	14.32	1.12	299	271	347	-28	48
	Ford	15.23	1.19	434	230	314	-204	-120
	Iroquois	13.05	1.02	486	406	475	-80	-11
	Livingston	13.34	1.04	518	443	530	-75	12
	Macon	13.86	1.08	1253	1045	1297	-208	44
	McLean	9.25	0.72	1136	1012	838	-124	-298
	Moultrie	11.81	0.92	361	236	250	-125	-111
	Piatt	10.23	0.80	160	151	138	-9	-22
	Shelby	14.66	1.15	259	175	230	-84	-29
	Vermilion	15.04	1.18	759	598	806	-161	47
HSA-5			32.20	6952	5950	9050	-1002	2098
	Alexander/Pulaski	23.47	1.84	83	88	184	5	101
	Bond	14.87	1.16	90	117	155	27	65
	Clay	17.19	1.35	209	126	195	-83	-14
	Crawford	15.69	1.23	166	158	222	-8	56
	Edwards/Wabash	16.77	1.31	129	138	208	9	79
	Effingham	11.84	0.93	434	356	378	-78	-56
	Fayette	16.75	1.31	261	187	280	-74	19
	Franklin	20.12	1.57	390	328	591	-62	201

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					Proj	DAProj	N/E_Proj	N/E_DAProj
	Gallatin/Hamilton/Saline	19.83	1.55	578	558	992	-20	414
	Hardin/Pope	25.64	2.01	62	94	216	32	154
	Jackson	12.27	0.96	369	288	317	-81	-52
	Jasper	13.95	1.09	57	59	74	2	17
	Jefferson	16.61	1.30	336	300	447	-36	111
	Johnson/Massac	19.35	1.51	299	303	526	4	227
	Lawrence	18.38	1.44	340	223	367	-117	27
	Marion	18.45	1.44	509	455	752	-54	243
	Perry	16.48	1.29	210	155	229	-55	19
	Randolph	15.30	1.20	490	398	546	-92	56
	Richland	17.37	1.36	309	244	380	-65	71
	Union	17.48	1.37	293	277	433	-16	140
	Washington	13.59	1.06	263	172	209	-91	-54
	Wayne	16.14	1.26	169	155	224	-14	55
	White	18.55	1.45	351	243	403	-108	52
	Williamson	15.28	1.20	555	530	725	-25	170
HSA-6			2.34	16163	13358	11938	-2805	-4225
	6-A	9.98	0.78	7185	5228	4672	-1957	-2513
	6-B	9.98	0.78	4194	3754	3355	-440	-839
	6-C	9.98	0.78	4784	4375	3910	-409	-874
HSA-7			3.90	28079	26375	23572	-1704	-4507
	7-A	9.98	0.78	3321	3789	3387	468	66
	7-B	9.98	0.78	6827	6084	5437	-743	-1390
	7-C	9.98	0.78	5862	5999	5361	137	-501
	7-D	9.98	0.78	2904	2462	2200	-442	-704
	7-E	9.98	0.78	9165	8041	7186	-1124	-1979
HSA-8			1.86	8724	8023	5685	-701	-3039
	Kane	7.86	0.62	3064	2704	1905	-360	-1159
	Lake	7.93	0.62	4663	4186	2975	-477	-1688
	McHenry	7.94	0.62	997	1133	806	136	-191

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	CIM-0 (60%-160%, 90%) , 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
HSA-9			3.29	4608	4614	4188	6	-420
	Grundy	10.53	0.82	265	302	284	37	19
	Kankakee	16.09	1.26	1368	1045	1506	-323	138
	Kendall	7.12	0.56	185	341	217	156	32
	Will	8.32	0.65	2790	2926	2180	136	-610
HSA-10			2.92	1886	1680	1889	-206	3
	Henry	11.70	0.92	500	433	454	-67	-46
	Mercer	12.75	1.00	172	170	195	-2	23
	RockIsland	12.86	1.01	1214	1077	1241	-137	27
HSA-11			3.62	5070	4331	4723	-739	-347
	Clinton	11.54	0.90	357	323	334	-34	-23
	Madison	11.96	0.94	2212	1849	1982	-363	-230
	Monroe	9.94	0.78	250	302	268	52	18
	St.Clair	12.85	1.01	2251	1858	2139	-393	-112
Illinois			100	100792	89317	89317	-11475	-11475

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	CIM-1 (base use rate, 90%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
HSA-1			8.60	6,074	5,535	6,087	-539	13
	Boone	9.00	0.70	279	346	278	67	-1
	Carroll	15.61	1.22	155	129	180	-26	25
	Dekalb	8.52	0.67	742	740	564	-2	-178
	JoDaviess	12.01	0.94	155	161	173	6	18
	Lee	11.74	0.92	342	272	286	-70	-56
	Ogle	10.71	0.84	565	537	514	-28	-51
	Stephenson	14.63	1.15	637	577	756	-60	119
	Whiteside	14.63	1.15	857	675	883	-182	26
	Winnebago	13.06	1.02	2342	2099	2452	-243	110
HSA-2			9.76	7937	6905	7469	-1032	-468
	Bureau/Putnam	12.51	0.98	377	363	406	-14	29
	Fulton	14.66	1.15	603	455	597	-148	-6
	Henderson/Warren	13.08	1.02	218	154	180	-64	-38
	Knox	14.98	1.17	950	739	991	-211	41
	Lasalle	12.45	0.97	1391	1177	1312	-214	-79
	Marshall/Stark	14.39	1.13	427	332	428	-95	1
	McDonough	11.09	0.87	360	341	338	-19	-22
	Peoria	11.09	0.87	1765	1635	1622	-130	-143
	Tazewell	11.07	0.87	1256	1090	1080	-166	-176
	Woodford	9.31	0.73	590	618	515	28	-75
HSA-3			16.53	7119	5793	7254	-1326	135
	Adams	13.62	1.07	1499	1088	1326	-411	-173
	Brown/Schuyler	13.40	1.05	186	147	176	-39	-10
	Calhoun/Pike	15.51	1.21	337	264	367	-73	30
	Cass	13.17	1.03	150	145	171	-5	21
	Christian	14.20	1.11	472	373	474	-99	2
	Greene	15.74	1.23	119	115	162	-4	43
	Hancock	14.31	1.12	184	146	186	-38	2
	Jersey	10.66	0.83	369	323	308	-46	-61
	Logan	14.85	1.16	468	385	512	-83	44

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	Macoupin	15.33	1.20	744	524	718	-220	-26
	Mason	16.43	1.29	164	117	172	-47	8
	Menard	11.78	0.92	106	106	111	0	5
	Montgomery	14.05	1.10	490	428	538	-62	48
	Morgan/Scott	14.32	1.12	561	471	603	-90	42
	Sangamon	13.75	1.08	1270	1162	1429	-108	159
HSA-4			14.97	8180	6890	7669	-1290	-511
	Champaign	8.60	0.67	908	865	666	-43	-242
	Clark	14.51	1.14	245	224	291	-21	46
	Coles/Cumberland	14.09	1.10	939	682	859	-257	-80
	Dewitt	13.03	1.02	190	207	241	17	51
	Douglas	10.28	0.80	233	201	185	-32	-48
	Edgar	14.32	1.12	299	271	346	-28	47
	Ford	15.23	1.19	434	353	481	-81	47
	Iroquois	13.05	1.02	486	406	474	-80	-12
	Livingston	13.34	1.04	518	443	529	-75	11
	Macon	13.86	1.08	1253	1109	1375	-144	122
	McLean	9.25	0.72	1136	971	803	-165	-333
	Moultrie	11.81	0.92	361	251	265	-110	-96
	Piatt	10.23	0.80	160	146	134	-14	-26
	Shelby	14.66	1.15	259	163	214	-96	-45
	Vermilion	15.04	1.18	759	598	804	-161	45
HSA-5			32.20	6952	5885	8947	-1067	1995
	Alexander/Pulaski	23.47	1.84	83	69	146	-14	63
	Bond	14.87	1.16	90	117	155	27	65
	Clay	17.19	1.35	209	127	195	-82	-14
	Crawford	15.69	1.23	166	140	196	-26	30
	Edwards/Wabash	16.77	1.31	129	126	188	-3	59
	Effingham	11.84	0.93	434	356	377	-78	-57
	Fayette	16.75	1.31	261	187	280	-74	19
	Franklin	20.12	1.57	390	333	599	-57	209

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					Proj	DAProj	N/E_Proj	N/E_DAProj
	Gallatin/Hamilton/Saline	19.83	1.55	578	561	996	-17	418
	Hardin/Pope	25.64	2.01	62	94	216	32	154
	Jackson	12.27	0.96	369	272	299	-97	-70
	Jasper	13.95	1.09	57	41	52	-16	-5
	Jefferson	16.61	1.30	336	300	446	-36	110
	Johnson/Massac	19.35	1.51	299	301	521	2	222
	Lawrence	18.38	1.44	340	226	372	-114	32
	Marion	18.45	1.44	509	455	751	-54	242
	Perry	16.48	1.29	210	155	229	-55	19
	Randolph	15.30	1.20	490	398	545	-92	55
	Richland	17.37	1.36	309	244	379	-65	70
	Union	17.48	1.37	293	281	440	-12	147
	Washington	13.59	1.06	263	167	203	-96	-60
	Wayne	16.14	1.26	169	155	223	-14	54
	White	18.55	1.45	351	250	415	-101	64
	Williamson	15.28	1.20	555	530	724	-25	169
HSA-6			2.34	16163	14698	13117	-1465	-3046
	6-A	9.98	0.78	7185	6568	5862	-617	-1323
	6-B	9.98	0.78	4194	3754	3351	-440	-843
	6-C	9.98	0.78	4784	4375	3905	-409	-879
HSA-7			3.90	28079	26150	23338	-1929	-4741
	7-A	9.98	0.78	3321	3242	2894	-79	-427
	7-B	9.98	0.78	6827	6206	5539	-621	-1288
	7-C	9.98	0.78	5862	5912	5276	50	-586
	7-D	9.98	0.78	2904	2462	2197	-442	-707
	7-E	9.98	0.78	9165	8328	7432	-837	-1733
HSA-8			1.86	8724	7904	5593	-820	-3131
	Kane	7.86	0.62	3064	2704	1902	-360	-1162
	Lake	7.93	0.62	4663	4186	2971	-477	-1692
	McHenry	7.94	0.62	997	1014	720	17	-277

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					Proj	DAProj	N/E_Proj	N/E_DAProj
HSA-9			3.29	4608	4755	4450	147	-158
	Grundy	10.53	0.82	265	287	270	22	5
	Kankakee	16.09	1.26	1368	1273	1833	-95	465
	Kendall	7.12	0.56	185	268	171	83	-14
	Will	8.32	0.65	2790	2926	2177	136	-613
HSA-10			2.92	1886	1688	1895	-198	9
	Henry	11.70	0.92	500	441	462	-59	-38
	Mercer	12.75	1.00	172	170	194	-2	22
	RockIsland	12.86	1.01	1214	1077	1239	-137	25
HSA-11			3.62	5070	4291	4677	-779	-393
	Clinton	11.54	0.90	357	314	324	-43	-33
	Madison	11.96	0.94	2212	1830	1958	-382	-254
	Monroe	9.94	0.78	250	288	256	38	6
	St.Clair	12.85	1.01	2251	1859	2138	-392	-113
Illinois			100	100792	90494	90494	-10298	-10298

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	CIM-2 (30%-130%, 90%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
HSA-1			8.60	6,074	5,370	5,916	-704	-158
	Boone	9.00	0.70	279	346	279	67	0
	Carroll	15.61	1.22	155	129	180	-26	25
	Dekalb	8.52	0.67	742	672	513	-70	-229
	JoDaviess	12.01	0.94	155	161	173	6	18
	Lee	11.74	0.92	342	272	286	-70	-56
	Ogle	10.71	0.84	565	537	515	-28	-50
	Stephenson	14.63	1.15	637	577	757	-60	120
	Whiteside	14.63	1.15	857	578	758	-279	-99
	Winnebago	13.06	1.02	2342	2099	2455	-243	113
HSA-2			9.76	7937	6584	7154	-1353	-783
	Bureau/Putnam	12.51	0.98	377	366	410	-11	33
	Fulton	14.66	1.15	603	455	597	-148	-6
	Henderson/Warren	13.08	1.02	218	154	180	-64	-38
	Knox	14.98	1.17	950	713	957	-237	7
	Lasalle	12.45	0.97	1391	1177	1314	-214	-77
	Marshall/Stark	14.39	1.13	427	274	353	-153	-74
	McDonough	11.09	0.87	360	338	335	-22	-25
	Peoria	11.09	0.87	1765	1526	1517	-239	-248
	Tazewell	11.07	0.87	1256	1090	1082	-166	-174
	Woodford	9.31	0.73	590	491	409	-99	-181
HSA-3			16.53	7119	5506	6915	-1613	-204
	Adams	13.62	1.07	1499	918	1120	-581	-379
	Brown/Schuyler	13.40	1.05	186	147	177	-39	-9
	Calhoun/Pike	15.51	1.21	337	264	367	-73	30
	Cass	13.17	1.03	150	149	176	-1	26
	Christian	14.20	1.11	472	373	474	-99	2
	Greene	15.74	1.23	119	115	162	-4	43
	Hancock	14.31	1.12	184	146	187	-38	3
	Jersey	10.66	0.83	369	295	282	-74	-87
	Logan	14.85	1.16	468	375	499	-93	31

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	Menard	11.78	0.92	106	107	113	1	7
	Montgomery	14.05	1.10	490	359	452	-131	-38
	Morgan/Scott	14.32	1.12	561	455	584	-106	23
	Sangamon	13.75	1.08	1270	1162	1431	-108	161
HSA-4			14.97	8180	6475	7156	-1705	-1024
	Champaign	8.60	0.67	908	865	667	-43	-241
	Clark	14.51	1.14	245	217	282	-28	37
	Coles/Cumberland	14.09	1.10	939	651	822	-288	-117
	Dewitt	13.03	1.02	190	194	227	4	37
	Douglas	10.28	0.80	233	196	180	-37	-53
	Edgar	14.32	1.12	299	254	325	-45	26
	Ford	15.23	1.19	434	187	255	-247	-179
	Iroquois	13.05	1.02	486	402	470	-84	-16
	Livingston	13.34	1.04	518	423	506	-95	-12
	Macon	13.86	1.08	1253	1014	1258	-239	5
	McLean	9.25	0.72	1136	971	804	-165	-332
	Moultrie	11.81	0.92	361	194	205	-167	-156
	Piatt	10.23	0.80	160	146	134	-14	-26
	Shelby	14.66	1.15	259	163	215	-96	-44
	Vermilion	15.04	1.18	759	598	805	-161	46
HSA-5			32.20	6952	5688	8637	-1264	1685
	Alexander/Pulaski	23.47	1.84	83	69	146	-14	63
	Bond	14.87	1.16	90	117	155	27	65
	Clay	17.19	1.35	209	123	190	-86	-19
	Crawford	15.69	1.23	166	145	204	-21	38
	Edwards/Wabash	16.77	1.31	129	129	193	0	64
	Effingham	11.84	0.93	434	356	377	-78	-57
	Fayette	16.75	1.31	261	187	280	-74	19
	Franklin	20.12	1.57	390	318	574	-72	184

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	CIM-2 (30%-130%, 90%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
	Gallatin/Hamilton/Saline	19.83	1.55	578	535	951	-43	373
	Hardin/Pope	25.64	2.01	62	94	216	32	154
	Jackson	12.27	0.96	369	272	299	-97	-70
	Jasper	13.95	1.09	57	41	52	-16	-5
	Jefferson	16.61	1.30	336	300	447	-36	111
	Johnson/Massac	19.35	1.51	299	301	522	2	223
	Lawrence	18.38	1.44	340	184	303	-156	-37
	Marion	18.45	1.44	509	451	745	-58	236
	Perry	16.48	1.29	210	155	229	-55	19
	Randolph	15.30	1.20	490	377	517	-113	27
	Richland	17.37	1.36	309	226	351	-83	42
	Union	17.48	1.37	293	242	379	-51	86
	Washington	13.59	1.06	263	166	202	-97	-61
	Wayne	16.14	1.26	169	155	224	-14	55
	White	18.55	1.45	351	215	357	-136	6
	Williamson	15.28	1.20	555	530	725	-25	170
HSA-6			2.34	16163	12377	11061	-3786	-5102
	6-A	9.98	0.78	7185	4248	3796	-2937	-3389
	6-B	9.98	0.78	4194	3754	3355	-440	-839
	6-C	9.98	0.78	4784	4375	3910	-409	-874
HSA-7			3.90	28079	24977	22321	-3102	-5758
	7-A	9.98	0.78	3321	3392	3031	71	-290
	7-B	9.98	0.78	6827	5677	5074	-1150	-1753
	7-C	9.98	0.78	5862	5912	5283	50	-579
	7-D	9.98	0.78	2904	2462	2200	-442	-704
	7-E	9.98	0.78	9165	7534	6733	-1631	-2432
HSA-8			1.86	8724	7879	5582	-845	-3142
	Kane	7.86	0.62	3064	2704	1904	-360	-1160
	Lake	7.93	0.62	4663	4149	2949	-514	-1714
	McHenry	7.94	0.62	997	1025	729	28	-268

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	CIM-2 (30%-130%, 90%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
HSA-9			3.29	4608	4385	3913	-223	-695
	Grundy	10.53	0.82	265	266	251	1	-14
	Kankakee	16.09	1.26	1368	898	1295	-470	-73
	Kendall	7.12	0.56	185	294	188	109	3
	Will	8.32	0.65	2790	2926	2180	136	-610
HSA-10			2.92	1886	1660	1868	-226	-18
	Henry	11.70	0.92	500	415	436	-85	-64
	Mercer	12.75	1.00	172	167	191	-5	19
	RockIsland	12.86	1.01	1214	1077	1241	-137	27
HSA-11			3.62	5070	4206	4586	-864	-484
	Clinton	11.54	0.90	357	311	322	-46	-35
	Madison	11.96	0.94	2212	1830	1961	-382	-251
	Monroe	9.94	0.78	250	287	255	37	5
	St.Clair	12.85	1.01	2251	1779	2048	-472	-203
Illinois			100	100792	85108	85108	-15684	-15684

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	CIM-3 (30%-150%, 95%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
HSA-1			8.60	6,074	5,163	5,663	-911	-411
	Boone	9.00	0.70	279	327	264	48	-15
	Carroll	15.61	1.22	155	122	171	-33	16
	Dekalb	8.52	0.67	742	701	535	-41	-207
	JoDaviess	12.01	0.94	155	152	164	-3	9
	Lee	11.74	0.92	342	258	271	-84	-71
	Ogle	10.71	0.84	565	508	487	-57	-78
	Stephenson	14.63	1.15	637	547	716	-90	79
	Whiteside	14.63	1.15	857	559	732	-298	-125
	Winnebago	13.06	1.02	2342	1988	2324	-354	-18
HSA-2			9.76	7937	6413	6952	-1524	-985
	Bureau/Putnam	12.51	0.98	377	346	388	-31	11
	Fulton	14.66	1.15	603	431	566	-172	-37
	Henderson/Warren	13.08	1.02	218	146	171	-72	-47
	Knox	14.98	1.17	950	700	939	-250	-11
	Lasalle	12.45	0.97	1391	1116	1243	-275	-148
	Marshall/Stark	14.39	1.13	427	284	366	-143	-61
	McDonough	11.09	0.87	360	323	321	-37	-39
	Peoria	11.09	0.87	1765	1504	1493	-261	-272
	Tazewell	11.07	0.87	1256	1033	1024	-223	-232
	Woodford	9.31	0.73	590	530	441	-60	-149
HSA-3			16.53	7119	5390	6752	-1729	-367
	Adams	13.62	1.07	1499	993	1211	-506	-288
	Brown/Schuyler	13.40	1.05	186	139	167	-47	-19
	Calhoun/Pike	15.51	1.21	337	250	348	-87	11
	Cass	13.17	1.03	150	141	166	-9	16
	Christian	14.20	1.11	472	353	449	-119	-23
	Greene	15.74	1.23	119	109	154	-10	35
	Hancock	14.31	1.12	184	138	177	-46	-7
	Jersey	10.66	0.83	369	306	292	-63	-77
	Logan	14.85	1.16	468	361	480	-107	12

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	CIM-3 (30%-150%, 95%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
	Macoupin	15.33	1.20	744	496	681	-248	-63
	Mason	16.43	1.29	164	111	163	-53	-1
	Menard	11.78	0.92	106	101	107	-5	1
	Montgomery	14.05	1.10	490	353	444	-137	-46
	Morgan/Scott	14.32	1.12	561	438	561	-123	0
	Sangamon	13.75	1.08	1270	1101	1354	-169	84
HSA-4			14.97	8180	6285	6957	-1895	-1223
	Champaign	8.60	0.67	908	820	631	-88	-277
	Clark	14.51	1.14	245	212	276	-33	31
	Coles/Cumberland	14.09	1.10	939	632	797	-307	-142
	Dewitt	13.03	1.02	190	196	229	6	39
	Douglas	10.28	0.80	233	189	174	-44	-59
	Edgar	14.32	1.12	299	255	327	-44	28
	Ford	15.23	1.19	434	205	279	-229	-155
	Iroquois	13.05	1.02	486	385	449	-101	-37
	Livingston	13.34	1.04	518	420	501	-98	-17
	Macon	13.86	1.08	1253	980	1215	-273	-38
	McLean	9.25	0.72	1136	920	761	-216	-375
	Moultrie	11.81	0.92	361	212	224	-149	-137
	Piatt	10.23	0.80	160	138	127	-22	-33
	Shelby	14.66	1.15	259	155	203	-104	-56
	Vermilion	15.04	1.18	759	566	762	-193	3
HSA-5			32.20	6952	5537	8413	-1415	1461
	Alexander/Pulaski	23.47	1.84	83	66	138	-17	55
	Bond	14.87	1.16	90	111	147	21	57
	Clay	17.19	1.35	209	119	183	-90	-26
	Crawford	15.69	1.23	166	138	193	-28	27
	Edwards/Wabash	16.77	1.31	129	122	183	-7	54
	Effingham	11.84	0.93	434	337	357	-97	-77
	Fayette	16.75	1.31	261	177	265	-84	4
	Franklin	20.12	1.57	390	308	554	-82	164

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	CIM-3 (30%-150%, 95%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
	Gallatin/Hamilton/Saline	19.83	1.55	578	525	932	-53	354
	Hardin/Pope	25.64	2.01	62	89	204	27	142
	Jackson	12.27	0.96	369	258	283	-111	-86
	Jasper	13.95	1.09	57	39	49	-18	-8
	Jefferson	16.61	1.30	336	284	423	-52	87
	Johnson/Massac	19.35	1.51	299	285	494	-14	195
	Lawrence	18.38	1.44	340	199	327	-141	-13
	Marion	18.45	1.44	509	431	712	-78	203
	Perry	16.48	1.29	210	147	217	-63	7
	Randolph	15.30	1.20	490	377	516	-113	26
	Richland	17.37	1.36	309	231	359	-78	50
	Union	17.48	1.37	293	258	404	-35	111
	Washington	13.59	1.06	263	159	194	-104	-69
	Wayne	16.14	1.26	169	146	212	-23	43
	White	18.55	1.45	351	229	380	-122	29
	Williamson	15.28	1.20	555	502	687	-53	132
HSA-6			2.34	16163	12345	11023	-3818	-5140
	6-A	9.98	0.78	7185	4643	4146	-2542	-3039
	6-B	9.98	0.78	4194	3557	3176	-637	-1018
	6-C	9.98	0.78	4784	4145	3701	-639	-1083
HSA-7			3.90	28079	24258	21661	-3821	-6418
	7-A	9.98	0.78	3321	3214	2869	-107	-452
	7-B	9.98	0.78	6827	5655	5049	-1172	-1778
	7-C	9.98	0.78	5862	5600	5001	-262	-861
	7-D	9.98	0.78	2904	2332	2082	-572	-822
	7-E	9.98	0.78	9165	7458	6659	-1707	-2506
HSA-8			1.86	8724	7499	5309	-1225	-3415
	Kane	7.86	0.62	3064	2562	1803	-502	-1261
	Lake	7.93	0.62	4663	3966	2816	-697	-1847
	McHenry	7.94	0.62	997	971	690	-26	-307

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	CIM-3 (30%-150%, 95%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
HSA-9			3.29	4608	4293	3895	-315	-713
	Grundy	10.53	0.82	265	272	256	7	-9
	Kankakee	16.09	1.26	1368	970	1398	-398	30
	Kendall	7.12	0.56	185	279	178	94	-7
	Will	8.32	0.65	2790	2772	2063	-18	-727
HSA-10			2.92	1886	1586	1783	-300	-103
	Henry	11.70	0.92	500	405	424	-95	-76
	Mercer	12.75	1.00	172	161	184	-11	12
	RockIsland	12.86	1.01	1214	1020	1174	-194	-40
HSA-11			3.62	5070	4039	4402	-1031	-668
	Clinton	11.54	0.90	357	298	307	-59	-50
	Madison	11.96	0.94	2212	1733	1856	-479	-356
	Monroe	9.94	0.78	250	273	243	23	-7
	St.Clair	12.85	1.01	2251	1735	1996	-516	-255
Illinois			100	100792	82809	82809	-17983	-17983

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	OMAI (State flat rate, 90%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
HSA-1			8.60	6,074	5,083	5,747	-991	-327
	Boone	9.00	0.70	279	380	315	101	36
	Carroll	15.61	1.22	155	148	212	-7	57
	Dekalb	8.52	0.67	742	590	463	-152	-279
	JoDaviess	12.01	0.94	155	234	259	79	104
	Lee	11.74	0.92	342	267	289	-75	-53
	Ogle	10.71	0.84	565	421	415	-144	-150
	Stephenson	14.63	1.15	637	441	594	-196	-43
	Whiteside	14.63	1.15	857	485	653	-372	-204
	Winnebago	13.06	1.02	2342	2118	2547	-224	205
HSA-2			9.76	7937	5129	5679	-2808	-2258
	Bureau/Putnam	12.51	0.98	377	363	418	-14	41
	Fulton	14.66	1.15	603	281	380	-322	-223
	Henderson/Warren	13.08	1.02	218	195	234	-23	16
	Knox	14.98	1.17	950	441	609	-509	-341
	Lasalle	12.45	0.97	1391	877	1006	-514	-385
	Marshall/Stark	14.39	1.13	427	155	206	-272	-221
	McDonough	11.09	0.87	360	223	227	-137	-133
	Peoria	11.09	0.87	1765	1248	1275	-517	-490
	Tazewell	11.07	0.87	1256	1050	1071	-206	-185
	Woodford	9.31	0.73	590	296	254	-294	-336
HSA-3			16.53	7119	4406	5686	-2713	-1433
	Adams	13.62	1.07	1499	526	659	-973	-840
	Brown/Schuyler	13.40	1.05	186	112	138	-74	-48
	Calhoun/Pike	15.51	1.21	337	180	257	-157	-80
	Cass	13.17	1.03	150	102	124	-48	-26
	Christian	14.20	1.11	472	274	358	-198	-114
	Greene	15.74	1.23	119	109	158	-10	39
	Hancock	14.31	1.12	184	175	231	-9	47
	Jersey	10.66	0.83	369	178	175	-191	-194
	Logan	14.85	1.16	468	225	307	-243	-161

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	OMAI (State flat rate, 90%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
	Macoupin	15.33	1.20	744	335	473	-409	-271
	Mason	16.43	1.29	164	111	169	-53	5
	Menard	11.78	0.92	106	98	106	-8	0
	Montgomery	14.05	1.10	490	245	317	-245	-173
	Morgan/Scott	14.32	1.12	561	318	419	-243	-142
	Sangamon	13.75	1.08	1270	1419	1796	149	526
HSA-4			14.97	8180	5717	6272	-2463	-1908
	Champaign	8.60	0.67	908	1179	934	271	26
	Clark	14.51	1.14	245	135	180	-110	-65
	Coles/Cumberland	14.09	1.10	939	456	591	-483	-348
	Dewitt	13.03	1.02	190	130	155	-60	-35
	Douglas	10.28	0.80	233	157	148	-76	-85
	Edgar	14.32	1.12	299	160	211	-139	-88
	Ford	15.23	1.19	434	115	161	-319	-273
	Iroquois	13.05	1.02	486	257	308	-229	-178
	Livingston	13.34	1.04	518	291	358	-227	-160
	Macon	13.86	1.08	1253	820	1046	-433	-207
	McLean	9.25	0.72	1136	975	830	-161	-306
	Moultrie	11.81	0.92	361	119	130	-242	-231
	Piatt	10.23	0.80	160	125	118	-35	-42
	Shelby	14.66	1.15	259	189	256	-70	-3
	Vermilion	15.04	1.18	759	611	846	-148	87
HSA-5			32.20	6952	4914	7592	-2038	640
	Alexander/Pulaski	23.47	1.84	83	104	225	21	142
	Bond	14.87	1.16	90	127	173	37	83
	Clay	17.19	1.35	209	104	164	-105	-45
	Crawford	15.69	1.23	166	157	226	-9	60
	Edwards/Wabash	16.77	1.31	129	160	247	31	118
	Effingham	11.84	0.93	434	254	277	-180	-157
	Fayette	16.75	1.31	261	175	271	-86	10
	Franklin	20.12	1.57	390	335	620	-55	230

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	OMAI (State flat rate, 90%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
	Gallatin/Hamilton/Saline	19.83	1.55	578	337	616	-241	38
	Hardin/Pope	25.64	2.01	62	74	175	12	113
	Jackson	12.27	0.96	369	373	421	4	52
	Jasper	13.95	1.09	57	80	103	23	46
	Jefferson	16.61	1.30	336	300	459	-36	123
	Johnson/Massac	19.35	1.51	299	237	422	-62	123
	Lawrence	18.38	1.44	340	123	208	-217	-132
	Marion	18.45	1.44	509	323	549	-186	40
	Perry	16.48	1.29	210	164	249	-46	39
	Randolph	15.30	1.20	490	252	354	-238	-136
	Richland	17.37	1.36	309	146	233	-163	-76
	Union	17.48	1.37	293	153	246	-140	-47
	Washington	13.59	1.06	263	119	149	-144	-114
	Wayne	16.14	1.26	169	143	212	-26	43
	White	18.55	1.45	351	137	234	-214	-117
	Williamson	15.28	1.20	555	539	758	-16	203
HSA-6			2.34	16163	14527	13344	-1636	-2819
	6-A	9.98	0.78	7185	3219	2957	-3966	-4228
	6-B	9.98	0.78	4194	4819	4427	625	233
	6-C	9.98	0.78	4784	6489	5961	1705	1177
HSA-7			3.90	28079	24018	22063	-4061	-6016
	7-A	9.98	0.78	3321	4363	4008	1042	687
	7-B	9.98	0.78	6827	4077	3745	-2750	-3082
	7-C	9.98	0.78	5862	6146	5646	284	-216
	7-D	9.98	0.78	2904	2826	2596	-78	-308
	7-E	9.98	0.78	9165	6605	6068	-2560	-3097
HSA-8			1.86	8724	9424	6864	700	-1860
	Kane	7.86	0.62	3064	3138	2272	74	-792
	Lake	7.93	0.62	4663	4399	3214	-264	-1449
	McHenry	7.94	0.62	997	1886	1379	889	382

HSA	HPA	Disability Rates, 2014	Disability-Adjusted Coefficient	Existing Bed, 2013	OMAI (State flat rate, 90%), 2018			
					Proj	DAProj	N/E_Proj	N/E_DAProj
HSA-9			3.29	4608	5782	4992	1174	384
	Grundy	10.53	0.82	265	310	300	45	35
	Kankakee	16.09	1.26	1368	797	1181	-571	-187
	Kendall	7.12	0.56	185	627	411	442	226
	Will	8.32	0.65	2790	4048	3100	1258	310
HSA-10			2.92	1886	1687	1955	-199	69
	Henry	11.70	0.92	500	393	423	-107	-77
	Mercer	12.75	1.00	172	142	167	-30	-5
	RockIsland	12.86	1.01	1214	1152	1364	-62	150
HSA-11			3.62	5070	4088	4580	-982	-490
	Clinton	11.54	0.90	357	273	290	-84	-67
	Madison	11.96	0.94	2212	1896	2088	-316	-124
	Monroe	9.94	0.78	250	259	237	9	-13
	St.Clair	12.85	1.01	2251	1661	1965	-590	-286
Illinois			100	100792	84773	84773	-16019	-16019

Figure 1. Projected Number of Counties with Need or Excess of LTC beds, 2018

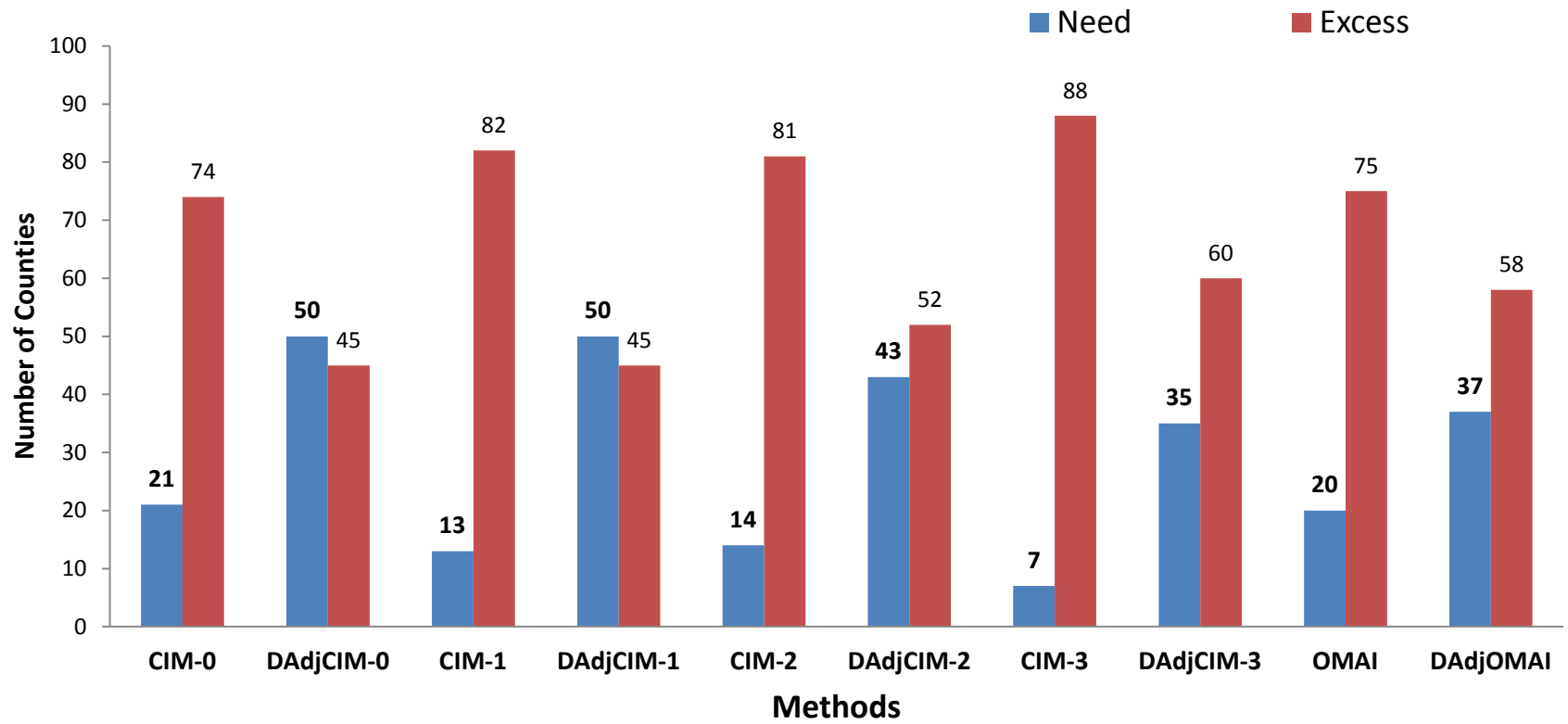


Figure 2. Number of Projected Counties with Need or Excess of LTC Beds According to DAC Values

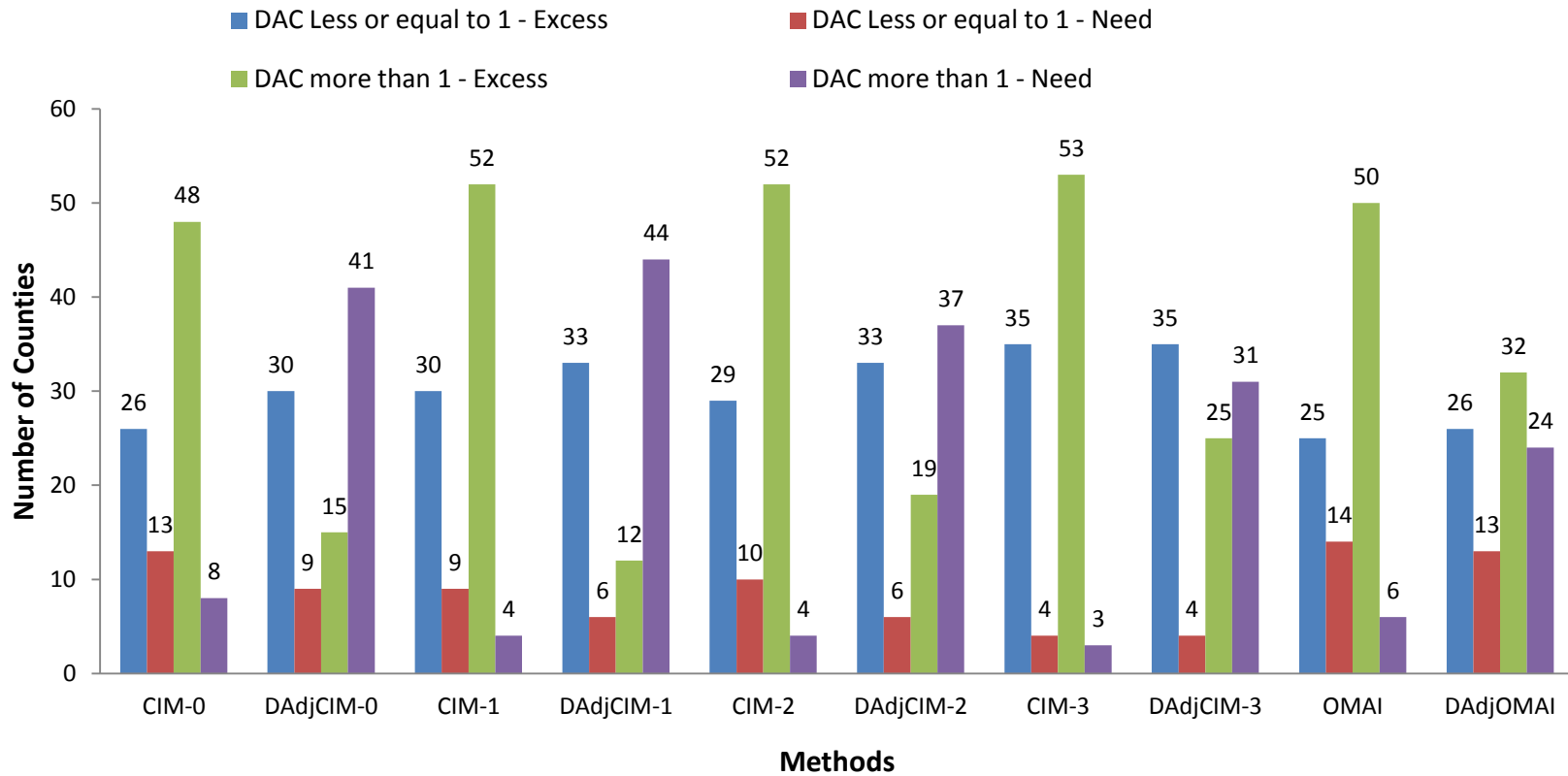
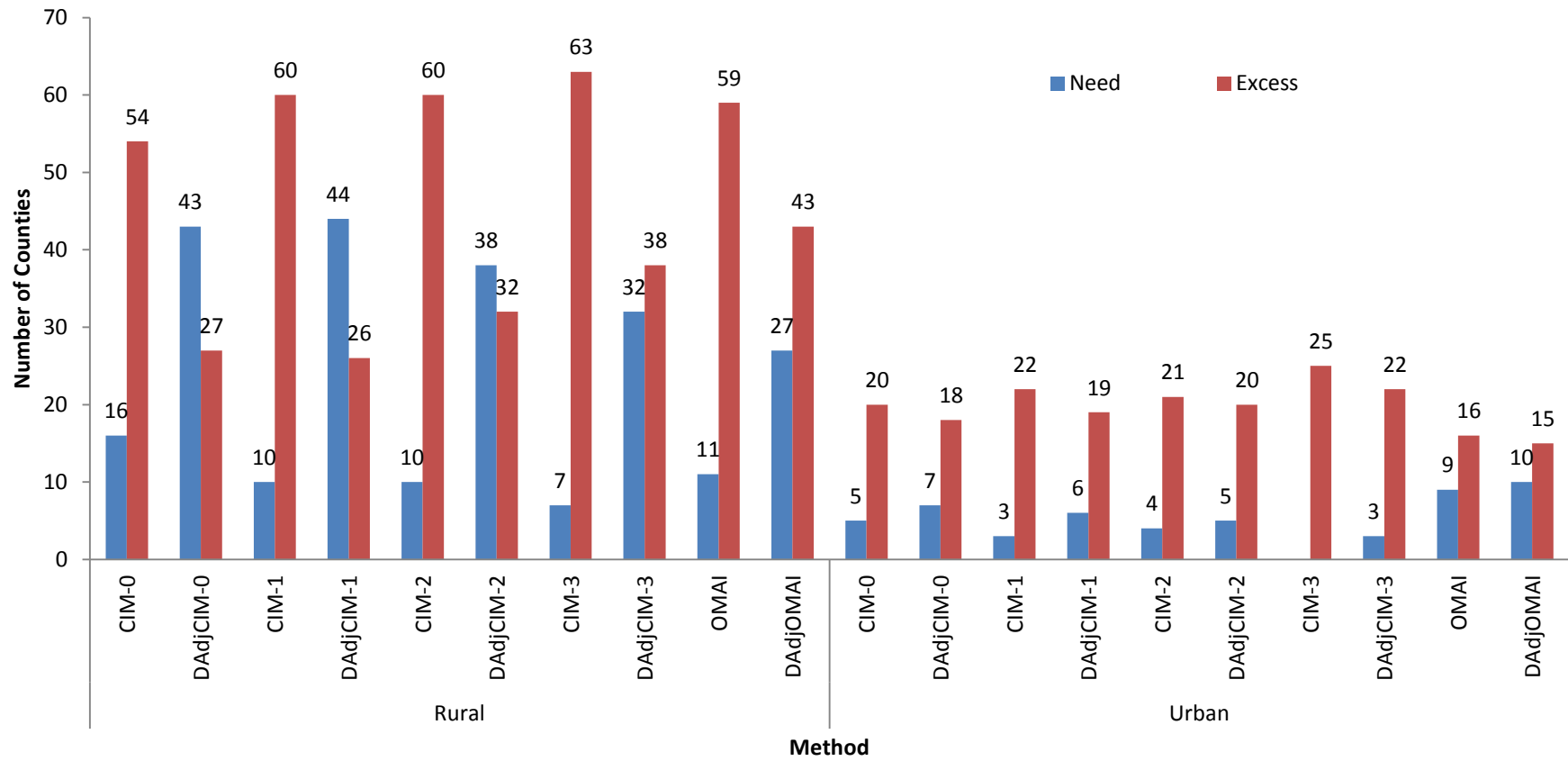


Figure 3. Projected Number of Counties with Need or Excess LTC Beds by Type of Area



HSA/Method	Excess	Need	Total
HSA-1	59	31	90
CIM-0	6	3	9
DAdjCIM-0	4	5	9
CIM-1	7	2	9
DAdjCIM-1	4	5	9
CIM-2	7	2	9
DAdjCIM-2	5	4	9
CIM-3	8	1	9
DAdjCIM-3	6	3	9
OMAI	7	2	9
DAdjOMAI	5	4	9
HSA-2	87	13	100
CIM-0	8	2	10
DAdjCIM-0	8	2	10
CIM-1	9	1	10
DAdjCIM-1	7	3	10
CIM-2	10		10
DAdjCIM-2	8	2	10
CIM-3	10		10
DAdjCIM-3	9	1	10
OMAI	10		10
DAdjOMAI	8	2	10

HSA/Method	Excess	Need	Total
HSA-3	103	47	150
CIM-0	13	2	15
DAdjCIM-0	5	10	15
CIM-1	15		15
DAdjCIM-1	4	11	15
CIM-2	14	1	15
DAdjCIM-2	5	10	15
CIM-3	15		15
DAdjCIM-3	8	7	15
OMAI	14	1	15
DAdjOMAI	10	5	15
HSA-4	121	29	150
CIM-0	14	1	15
DAdjCIM-0	9	6	15
CIM-1	14	1	15
DAdjCIM-1	8	7	15
CIM-2	14	1	15
DAdjCIM-2	10	5	15
CIM-3	14	1	15
DAdjCIM-3	11	4	15
OMAI	14	1	15
DAdjOMAI	13	2	15

HSA's/Method	Excess	Need	Total
HSA-5	129	111	240
CIM-0	18	6	24
DAdjCIM-0	4	20	24
CIM-1	21	3	24
DAdjCIM-1	5	19	24
CIM-2	21	3	24
DAdjCIM-2	6	18	24
CIM-3	22	2	24
DAdjCIM-3	6	18	24
OMAI	18	6	24
DAdjOMAI	8	16	24
HSA-6	26	4	30
CIM-0	3		3
DAdjCIM-0	3		3
CIM-1	3		3
DAdjCIM-1	3		3
CIM-2	3		3
DAdjCIM-2	3		3
CIM-3	3		3
DAdjCIM-3	3		3
OMAI	1	2	3
DAdjOMAI	1	2	3
HSA-7	41	9	50
CIM-0	3	2	5
DAdjCIM-0	4	1	5
CIM-1	4	1	5
DAdjCIM-1	5		5
CIM-2	3	2	5
DAdjCIM-2	5		5
CIM-3	5		5
DAdjCIM-3	5		5
OMAI	3	2	5
DAdjOMAI	4	1	5

HSA's/Method	Excess	Need	Total
HSA-8	24	6	30
CIM-0	2	1	3
DAdjCIM-0	3		3
CIM-1	2	1	3
DAdjCIM-1	3		3
CIM-2	2	1	3
DAdjCIM-2	3		3
CIM-3	3		3
DAdjCIM-3	3		3
OMAI	1	2	3
DAdjOMAI	2	1	3
HSA-9	16	24	40
CIM-0	1	3	4
DAdjCIM-0	1	3	4
CIM-1	1	3	4
DAdjCIM-1	2	2	4
CIM-2	1	3	4
DAdjCIM-2	3	1	4
CIM-3	2	2	4
DAdjCIM-3	3	1	4
OMAI	1	3	4
DAdjOMAI	1	3	4

HSA/Method	Excess	Need	Total
HSA-11	32	8	40
CIM-0	3	1	4
DAdjCIM-0	3	1	4
CIM-1	3	1	4
DAdjCIM-1	3	1	4
CIM-2	3	1	4
DAdjCIM-2	3	1	4
CIM-3	3	1	4
DAdjCIM-3	4		4
OMAI	3	1	4
DAdjOMAI	4		4
HSA-10	22	8	30
CIM-0	3		3
DAdjCIM-0	1	2	3
CIM-1	3		3
DAdjCIM-1	1	2	3
CIM-2	3		3
DAdjCIM-2	1	2	3
CIM-3	3		3
DAdjCIM-3	2	1	3
OMAI	3		3
DAdjOMAI	2	1	3