

**Regression Output from the Risk Adjustment Model for Claims-Based Quality Measure OCM-1
(Hospitalization During the Episode)**

Analysis of Maximum Likelihood Parameter Estimates for Fixed Effects

Proc GLIMMIX

Effect	Estimate	Standard Error	t Value	Pr > t
Intercept	-2.6017	0.008498	-306.2	<.0001
male_age_18_64	0.0739	0.009612	7.7	<.0001
male_age_65_69	0.0540	0.007637	7.1	<.0001
male_age_70_74	0.1018	0.007698	13.2	<.0001
male_age_75_79	0.1641	0.007946	20.7	<.0001
male_age_80+	0.3742	0.007692	48.7	<.0001
female_age_18_64	0.1294	0.008060	16.1	<.0001
female_age_70_74	0.0623	0.007034	8.9	<.0001
female_age_75_79	0.1508	0.007470	20.2	<.0001
female_age_80+	0.2527	0.007184	35.2	<.0001
bladder_with_surgery_low_risk	1.7704	0.067420	26.3	<.0001
bladder_without_surgery_low_risk	0.3959	0.015080	26.3	<.0001
bladder_with_surgery_hi_risk	2.1102	0.038050	55.5	<.0001
bladder_without_surgery_hi_risk	1.6861	0.013790	122.2	<.0001
intestinal_with_surgery	1.8941	0.022790	83.1	<.0001
intestinal_without_surgery	1.4651	0.008405	174.3	<.0001
breast_part_b_with_surgery	0.9433	0.021340	44.2	<.0001
breast_part_b_without_surgery	1.1418	0.007751	147.3	<.0001
breast_part_d_only_with_surgery	0.1006	0.031000	3.3	0.0012
gastro_with_surgery	1.7679	0.032700	54.1	<.0001
gastro_without_surgery	1.8768	0.013320	140.9	<.0001
liver_with_surgery	1.7664	0.109900	16.1	<.0001
liver_without_surgery	1.8040	0.015230	118.4	<.0001
lung_with_surgery	1.3603	0.041710	32.6	<.0001
lung_without_surgery	1.7981	0.007490	240.1	<.0001
ovary_with_surgery	1.4500	0.044960	32.3	<.0001
ovary_without_surgery	1.6032	0.011380	140.9	<.0001
female_gu_with_surgery	1.3147	0.098590	13.3	<.0001
female_gu_without_surgery	1.4633	0.014240	102.8	<.0001
pancreas_with_surgery	1.8596	0.060850	30.6	<.0001
pancreas_without_surgery	2.0218	0.011410	177.2	<.0001
prostate_with_surgery_sensitive	1.0762	0.035630	30.2	<.0001
prostate_with_surgery_resistant	2.0525	0.061170	33.6	<.0001
prostate_without_surgery_sensitive	0.3840	0.008765	43.8	<.0001
prostate_without_surgery_resistant	1.3489	0.010810	124.8	<.0001
head_neck_with_surgery	1.9470	0.089150	21.8	<.0001
head_neck_without_surgery	1.6241	0.013480	120.5	<.0001
anal_with_surgery	1.6985	0.138400	12.3	<.0001
anal_without_surgery	1.6068	0.027560	58.3	<.0001
CNS	1.6897	0.017610	96.0	<.0001
Chronic_Leukemia	1.1072	0.010550	105.0	<.0001
Acute_Leukemia	2.2956	0.018600	123.4	<.0001
Lymphoma	1.2043	0.008320	144.7	<.0001
Myeloma	1.3451	0.009187	146.4	<.0001
MDS	1.7472	0.012950	134.9	<.0001
Endocrine	1.1802	0.016860	70.0	<.0001
kidney_with_surgery	2.1940	0.127800	17.2	<.0001

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Effect	Estimate	Standard Error	t Value	Pr > t
kidney_without_surgery	1.4641	0.016700	87.7	<.0001
Melanoma	1.6709	0.020280	82.4	<.0001
bone_marrow_transplant	0.5653	0.028440	19.9	<.0001
clean1_61	-0.3633	0.004293	-84.6	<.0001
clean62_730	-0.2428	0.004500	-54.0	<.0001
institutional_status	-0.0318	0.018780	-1.7	0.0908
HRR_relative_risk_hospitalization	0.0097	0.000252	38.5	<.0001
low_income	0.2148	0.004539	47.3	<.0001
hcc_new	0.2604	0.006897	37.8	<.0001
hcc_1	0.2051	0.005285	38.8	<.0001
hcc_2	0.4143	0.005604	73.9	<.0001
hcc_3	0.6209	0.006180	100.5	<.0001
hcc4_5	0.8537	0.006040	141.3	<.0001
hcc6_or_more	1.2688	0.007175	176.8	<.0001
clinical_trial	0.1924	0.009935	19.4	<.0001
radiation	0.4003	0.004786	83.6	<.0001

**Regression Output from the Risk Adjustment Model for Claims-Based Quality Measure OCM-2
(Emergency Department Visit or Observation Stay During the Episode)**

Analysis of Maximum Likelihood Parameter Estimates for Fixed Effects

Proc GLIMMIX

Effect	Estimate	Standard Error	t Value	Pr > t
Intercept	-2.0905	0.007955	-262.8	<.0001
male_age_18_64	0.1753	0.009589	18.3	<.0001
male_age_65_69	-0.0231	0.007814	-3.0	0.0031
male_age_70_74	-0.0224	0.007851	-2.9	0.0043
male_age_75_79	0.0362	0.008072	4.5	<.0001
male_age_80+	0.2233	0.007757	28.8	<.0001
female_age_18_64	0.3528	0.007663	46.0	<.0001
female_age_70_74	0.0261	0.006923	3.8	0.0002
female_age_75_79	0.0773	0.007389	10.5	<.0001
female_age_80+	0.1859	0.007077	26.3	<.0001
bladder_with_surgery_low_risk	1.2403	0.067790	18.3	<.0001
bladder_without_surgery_low_risk	0.3344	0.013760	24.3	<.0001
bladder_with_surgery_hi_risk	1.3366	0.038800	34.5	<.0001
bladder_without_surgery_hi_risk	0.8755	0.014100	62.1	<.0001
intestinal_with_surgery	0.8886	0.024000	37.0	<.0001
intestinal_without_surgery	0.6976	0.008181	85.3	<.0001
breast_part_b_with_surgery	0.9769	0.019100	51.1	<.0001
breast_part_b_without_surgery	0.5236	0.007280	71.9	<.0001
breast_part_d_only_with_surgery	0.4276	0.023500	18.2	<.0001
gastro_with_surgery	1.4022	0.032640	43.0	<.0001
gastro_without_surgery	0.9480	0.013520	70.1	<.0001
liver_with_surgery	1.2112	0.110600	11.0	<.0001
liver_without_surgery	0.9745	0.015430	63.2	<.0001
lung_with_surgery	0.8234	0.042780	19.3	<.0001
lung_without_surgery	0.8315	0.007144	116.4	<.0001
ovary_with_surgery	1.0330	0.044280	23.3	<.0001
ovary_without_surgery	0.7969	0.011490	69.3	<.0001
female_gu_with_surgery	0.9416	0.096970	9.7	<.0001
female_gu_without_surgery	0.6838	0.014610	46.8	<.0001
pancreas_with_surgery	1.1360	0.061990	18.3	<.0001
pancreas_without_surgery	0.9729	0.011520	84.5	<.0001
prostate_with_surgery_sensitive	1.4683	0.031780	46.2	<.0001
prostate_with_surgery_resistant	1.9862	0.060780	32.7	<.0001
prostate_without_surgery_sensitive	0.2590	0.008174	31.7	<.0001
prostate_without_surgery_resistant	0.8206	0.010630	77.2	<.0001
head_neck_with_surgery	1.4468	0.088820	16.3	<.0001
head_neck_without_surgery	0.9527	0.013480	70.7	<.0001
anal_with_surgery	0.9232	0.142900	6.5	<.0001
anal_without_surgery	0.6481	0.029160	22.2	<.0001
CNS	0.9704	0.017820	54.5	<.0001
Chronic_Leukemia	0.5341	0.010350	51.6	<.0001
Acute_Leukemia	0.7981	0.019760	40.4	<.0001
Lymphoma	0.5260	0.008102	64.9	<.0001
Myeloma	0.6401	0.009036	70.8	<.0001
MDS	0.8221	0.013400	61.3	<.0001
Endocrine	0.6664	0.016670	40.0	<.0001
kidney_with_surgery	0.8011	0.141400	5.7	<.0001

**Regression Output from the Risk Adjustment Model for Claims-Based Quality Measure OCM-2
(Emergency Department Visit or Observation Stay During the Episode)**

Analysis of Maximum Likelihood Parameter Estimates for Fixed Effects

Proc GLIMMIX

Effect	Estimate	Standard Error	t Value	Pr > t
kidney_without_surgery	0.7317	0.017150	42.7	<.0001
Melanoma	0.7766	0.021360	36.4	<.0001
bone_marrow_transplant	0.1367	0.031100	4.4	<.0001
clean1_61	-0.2640	0.004349	-60.7	<.0001
clean62_730	-0.1850	0.004450	-41.6	<.0001
institutional_status	-0.4328	0.019250	-22.5	<.0001
HRR_relative_risk_ED_obs	0.0115	0.000212	54.1	<.0001
low_income	0.4199	0.004382	95.8	<.0001
hcc_new	0.1442	0.006858	21.0	<.0001
hcc_1	0.1864	0.005180	36.0	<.0001
hcc_2	0.3535	0.005529	63.9	<.0001
hcc_3	0.4886	0.006150	79.5	<.0001
hcc4_5	0.6348	0.006030	105.3	<.0001
hcc6_or_more	0.8309	0.007178	115.8	<.0001
clinical_trial	0.1383	0.010190	13.6	<.0001
radiation	0.2525	0.004886	51.7	<.0001

**OCM Relative Probability of a Hospitalization,
by Hospital Referral Region (HRR) - OCM-1**

HRR Number	HRR Relative Value
1	3.204
2	3.122
5	3.684
6	2.562
7	-4.112
9	-0.821
10	-4.207
11	1.072
12	-2.586
14	2.379
15	-17.686
16	11.328
18	19.603
19	4.334
21	-2.559
22	0.560
23	-17.880
25	-7.667
31	0.138
33	-10.149
43	-13.144
56	-3.710
58	-8.534
62	-4.938
65	-8.213
69	-2.274
73	-20.615
77	-13.204
78	-4.607
79	-1.353
80	-12.976
81	-15.142
82	-26.879
83	-29.066
85	-25.877
86	-28.389
87	-19.684
89	-27.064
91	-1.135
96	-10.440
101	-13.382
102	-11.013
103	-7.336
104	-1.041
105	-15.932
106	-4.715
107	1.719
109	3.937
110	5.021
111	7.801

**OCM Relative Probability of a Hospitalization,
by Hospital Referral Region (HRR) - OCM-1**

HRR Number	HRR Relative Value
112	-4.602
113	6.253
115	-5.565
116	-4.607
118	4.340
119	-5.268
120	18.671
122	9.736
123	3.068
124	12.862
127	1.139
129	3.514
130	10.747
131	-8.365
133	-8.432
134	7.984
137	-19.684
139	4.877
140	-1.122
141	6.044
142	-19.492
144	-6.297
145	-4.177
146	3.419
147	20.407
148	1.305
149	1.012
150	-12.431
151	-22.313
152	-8.754
154	-2.682
155	13.627
156	13.424
158	10.398
161	-2.835
163	3.605
164	16.492
166	5.365
170	1.130
171	2.158
172	4.715
173	7.824
175	-9.081
179	-1.394
180	4.959
181	27.162
183	1.671
184	9.148
185	7.790
186	38.043

**OCM Relative Probability of a Hospitalization,
by Hospital Referral Region (HRR) - OCM-1**

HRR Number	HRR Relative Value
187	4.488
188	11.999
190	-20.780
191	-5.822
192	-4.143
193	-19.147
194	-12.355
195	-14.924
196	-13.022
197	-10.943
200	-12.448
201	0.346
203	18.136
204	8.113
205	12.071
207	5.271
208	16.375
209	-0.432
210	-8.257
212	10.681
213	-5.402
214	9.426
216	2.293
217	12.018
218	6.498
219	0.306
220	19.943
221	1.228
222	-8.941
223	1.965
225	1.934
226	-0.278
227	3.160
230	-5.857
231	-2.356
232	12.873
233	17.666
234	19.968
235	12.510
236	11.410
238	-0.181
239	5.363
240	-13.054
242	-7.058
243	-1.635
244	12.578
245	17.874
246	9.751
248	2.301
249	8.745

**OCM Relative Probability of a Hospitalization,
by Hospital Referral Region (HRR) - OCM-1**

HRR Number	HRR Relative Value
250	-6.888
251	4.395
253	-6.489
254	-2.955
256	1.817
257	20.292
258	1.167
259	1.632
260	29.872
261	-11.262
262	1.545
263	-4.770
264	-5.808
267	-3.933
268	4.676
270	0.460
273	5.783
274	-8.265
275	-5.606
276	-14.160
277	-7.423
278	-4.558
279	1.233
280	-12.846
281	-14.381
282	-9.374
283	6.269
284	-0.731
285	-2.304
288	6.676
289	1.027
291	6.957
292	-3.868
293	-11.124
295	1.883
296	0.076
297	7.825
299	-1.940
300	14.069
301	1.902
303	5.876
304	-0.465
307	4.876
308	3.706
309	-13.153
311	-6.838
312	-5.749
313	-1.070
314	0.988
315	-16.123

**OCM Relative Probability of a Hospitalization,
by Hospital Referral Region (HRR) - OCM-1**

HRR Number	HRR Relative Value
318	-2.126
319	-5.493
320	-7.021
321	-3.455
322	-9.838
323	2.594
324	-8.731
325	10.311
326	4.139
327	8.327
328	5.363
329	6.660
330	8.986
331	15.795
332	-0.409
334	4.522
335	12.149
336	-5.086
339	-8.551
340	-0.753
341	-29.592
342	-18.256
343	-14.877
344	-12.130
345	0.156
346	12.871
347	-2.010
350	-4.290
351	-3.355
352	-0.033
354	19.016
355	-7.073
356	7.937
357	21.013
358	8.854
359	6.377
360	2.625
362	14.025
363	-16.217
364	-1.428
365	-8.471
366	-7.664
367	0.687
368	-18.795
369	-14.062
370	-11.544
371	-7.658
373	1.620
374	-11.683
375	0.105

**OCM Relative Probability of a Hospitalization,
by Hospital Referral Region (HRR) - OCM-1**

HRR Number	HRR Relative Value
376	10.209
377	-6.487
379	-1.443
380	6.209
382	14.239
383	-10.166
385	1.307
386	16.646
388	8.458
390	-10.429
391	-5.327
393	-0.237
394	-0.772
396	8.346
397	8.274
399	20.897
400	8.493
402	-1.252
406	1.733
411	-12.917
412	2.163
413	10.181
416	4.822
417	5.212
418	-12.331
420	-4.959
421	-14.686
422	-25.926
423	-18.051
424	-10.096
426	-7.209
427	-12.358
428	-8.559
429	-12.355
430	0.961
431	1.314
432	-8.928
435	6.947
437	-5.834
438	0.922
439	-8.591
440	-16.034
441	7.140
442	4.401
443	17.288
444	26.844
445	17.903
446	-9.102
447	6.171
448	-4.813

**OCM Relative Probability of a Hospitalization,
by Hospital Referral Region (HRR) - OCM-1**

HRR Number	HRR Relative Value
449	-11.821
450	2.924
451	-1.834
452	-6.856
456	8.632
457	-7.565
999	-11.764

**OCM Relative Probability of an Emergency Department Visit or
Observation Stay, by Hospital Referral Region (HRR) - OCM-2**

HRR Number	HRR Relative Value
1	-4.647
2	18.345
5	2.420
6	-12.477
7	-5.338
9	-3.994
10	23.102
11	-0.019
12	7.352
14	6.182
15	-13.656
16	12.546
18	9.165
19	-0.316
21	-0.881
22	23.776
23	-17.838
25	-1.077
31	4.356
33	-4.050
43	-9.811
56	-22.992
58	9.542
62	16.473
65	-4.154
69	-4.725
73	10.331
77	-6.081
78	-7.849
79	0.444
80	-0.565
81	-5.073
82	-12.781
83	9.007
85	-18.663
86	1.858
87	-16.060
89	-6.851
91	-0.762
96	-1.626
101	-15.077
102	8.723
103	-0.361
104	-10.924
105	12.824
106	16.343
107	24.533
109	-4.898
110	2.596
111	0.054

**OCM Relative Probability of an Emergency Department Visit or
Observation Stay, by Hospital Referral Region (HRR) - OCM-2**

HRR Number	HRR Relative Value
112	-17.843
113	6.507
115	-21.208
116	-8.333
118	-8.074
119	-23.037
120	-6.622
122	-23.032
123	-1.180
124	-13.685
127	4.009
129	-17.397
130	-12.479
131	1.647
133	-7.178
134	2.620
137	-17.208
139	-15.344
140	20.536
141	-12.225
142	-1.466
144	3.457
145	3.298
146	16.257
147	23.745
148	17.352
149	5.218
150	-6.658
151	12.057
152	0.481
154	12.490
155	-13.098
156	0.621
158	-9.275
161	-6.938
163	-11.780
164	-9.834
166	-9.426
170	5.793
171	5.146
172	12.036
173	15.487
175	0.795
179	4.953
180	9.073
181	7.847
183	9.919
184	12.788
185	2.179
186	4.848

**OCM Relative Probability of an Emergency Department Visit or
Observation Stay, by Hospital Referral Region (HRR) - OCM-2**

HRR Number	HRR Relative Value
187	3.007
188	15.377
190	-4.887
191	8.045
192	0.106
193	-8.464
194	5.561
195	9.052
196	-4.501
197	13.248
200	-1.510
201	2.083
203	8.575
204	25.531
205	7.119
207	2.016
208	6.532
209	19.478
210	10.721
212	31.161
213	9.428
214	27.224
216	15.487
217	15.752
218	37.225
219	17.307
220	26.795
221	37.379
222	14.505
223	-7.426
225	18.461
226	-3.469
227	1.154
230	12.238
231	1.003
232	8.717
233	-3.814
234	6.759
235	-16.146
236	19.296
238	14.026
239	6.777
240	27.168
242	40.393
243	20.709
244	-7.099
245	-9.501
246	13.919
248	14.843
249	25.317

**OCM Relative Probability of an Emergency Department Visit or
Observation Stay, by Hospital Referral Region (HRR) - OCM-2**

HRR Number	HRR Relative Value
250	19.497
251	8.132
253	16.364
254	-2.296
256	2.710
257	27.933
258	17.957
259	7.984
260	24.861
261	15.431
262	18.145
263	6.954
264	-5.194
267	9.260
268	-4.196
270	5.222
273	9.085
274	-0.943
275	-14.847
276	10.618
277	-6.465
278	-5.233
279	-10.165
280	-0.329
281	27.461
282	5.411
283	-5.970
284	-17.771
285	-24.540
288	-21.771
289	-16.200
291	-9.707
292	-12.487
293	-1.090
295	-4.139
296	0.382
297	-16.479
299	-9.598
300	-12.381
301	-23.454
303	-17.805
304	0.984
307	-10.656
308	-10.841
309	-7.210
311	-0.225
312	-1.933
313	-2.617
314	7.435
315	-2.781

**OCM Relative Probability of an Emergency Department Visit or
Observation Stay, by Hospital Referral Region (HRR) - OCM-2**

HRR Number	HRR Relative Value
318	0.183
319	-6.411
320	-3.377
321	5.064
322	6.315
323	11.195
324	8.182
325	5.026
326	21.631
327	2.625
328	2.996
329	10.940
330	6.668
331	2.342
332	4.142
334	10.396
335	3.854
336	30.332
339	14.753
340	3.133
341	-2.866
342	11.565
343	17.895
344	2.226
345	12.320
346	2.566
347	18.377
350	2.851
351	9.170
352	-2.299
354	8.830
355	-17.645
356	-8.864
357	12.893
358	-7.432
359	0.724
360	-4.991
362	-9.274
363	-24.986
364	8.859
365	4.394
366	-7.482
367	3.819
368	-16.701
369	-11.221
370	6.857
371	-4.555
373	-0.659
374	4.027
375	-5.154

**OCM Relative Probability of an Emergency Department Visit or
Observation Stay, by Hospital Referral Region (HRR) - OCM-2**

HRR Number	HRR Relative Value
376	27.009
377	7.277
379	-2.311
380	6.172
382	13.008
383	-11.601
385	1.009
386	19.611
388	21.490
390	3.239
391	-2.929
393	-3.100
394	3.485
396	3.325
397	11.081
399	16.433
400	13.675
402	-9.874
406	10.120
411	2.743
412	4.374
413	22.849
416	19.199
417	29.075
418	10.353
420	21.318
421	2.299
422	-5.423
423	3.584
424	15.525
426	3.391
427	0.204
428	-20.593
429	5.315
430	19.318
431	1.047
432	-6.030
435	9.482
437	-2.592
438	16.598
439	-2.396
440	11.418
441	-3.060
442	23.469
443	19.547
444	38.145
445	23.803
446	6.093
447	3.545
448	14.601

**OCM Relative Probability of an Emergency Department Visit or
Observation Stay, by Hospital Referral Region (HRR) - OCM-2**

HRR Number	HRR Relative Value
449	5.672
450	14.798
451	-5.077
452	12.520
456	16.833
457	2.001
999	-6.023