



# **Prevention Quality Indicators (PQI) Risk Adjustment Coefficients for the PQI Version 4.3**

**Prepared for:**

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Version 4.3a is a maintenance release of Version 4.3. The differences between the two versions are:

- Version 4.3a includes Version 29 of the Limited License edition of the 3M™ APR-DRG Grouper. This grouper corrects an issue found in Version 28 of the Limited License edition of the 3M™ APR-DRG Grouper. The grouper is only used with the Inpatient Quality Indicator (IQI) mortality measures. Version 4.3 includes Version 28 of the Limited License edition of the 3M™ APR-DRG Grouper, which was incorrectly assigning a Risk of Mortality (ROM) subclass for cases dated on or after 10/1/10.
- Version 4.3a allows users to calculate area-level indicators for years 2010 and 2011, correcting an issue previously identified in Version 4.3.

All other aspects of the software, including measure specifications, remain the same. Thus this document (related to Version 4.3) remains unchanged.

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## Executive Summary

This document provides the risk adjustment covariates and coefficients for relevant Agency for Healthcare Research and Quality (AHRQ) Quality Indicators (QI) Prevention Quality Indicators (PQI). Descriptions of the categories are provided in the Appendix table at the end of the document.

Additional information on the AHRQ QI risk adjustment process can be found in the [AHRQ QI Empirical Methods Report](#).

**Table 1. Risk Adjustment Coefficients for PQI #01 – Diabetes Short-Term Complications Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-8.3143	0.0480	30063.48	<.0001
SEX	Female	1	0.1448	0.0574	6.35	0.0117
AGE5	Males	1	1.3375	0.0489	748.34	<.0001
AGE6	Males	1	1.1529	0.0494	544.26	<.0001
AGE7	Males	1	1.1240	0.0496	513.39	<.0001
AGE8	Males	1	1.1622	0.0495	551.43	<.0001
AGE9	Males	1	1.2265	0.0494	617.53	<.0001
AGE10	Males	1	1.1957	0.0493	587.38	<.0001
AGE11	Males	1	1.0629	0.0496	458.98	<.0001
AGE12	Males	1	0.8083	0.0504	257.42	<.0001
AGE13	Males	1	0.6058	0.0515	138.38	<.0001
AGE14	Males	1	0.4449	0.0533	69.55	<.0001
AGE15	Males	1	0.3908	0.0553	49.90	<.0001
AGE16	Males	1	0.2723	0.0581	21.98	<.0001
AGE17	Males	1	0.3211	0.0607	27.95	<.0001
AGE5	Females	1	0.0673	0.0589	1.31	0.2531
AGE6	Females	1	-0.2063	0.0600	11.82	0.0006
AGE7	Females	1	-0.3070	0.0605	25.77	<.0001
AGE8	Females	1	-0.3369	0.0603	31.23	<.0001
AGE9	Females	1	-0.4178	0.0601	48.30	<.0001
AGE10	Females	1	-0.4216	0.0601	49.27	<.0001
AGE11	Females	1	-0.3561	0.0605	34.68	<.0001
AGE12	Females	1	-0.1795	0.0614	8.53	0.0035
AGE13	Females	1	-0.1631	0.0631	6.67	0.0098
AGE14	Females	1	-0.1465	0.0658	4.96	0.0260
AGE15	Females	1	-0.1752	0.0686	6.52	0.0107
AGE16	Females	1	-0.0419	0.0714	0.34	0.5579

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PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
AGE17	Females	1	-0.2183	0.0754	8.39	0.0038
AGE18	Females	0	0.0000	.	.	.

c-statistic Measures of association between the observed and predicted values were not calculated because the predicted probabilities are indistinguishable when they are classified into intervals of length 0.002.

**Table 2. Risk Adjustment Coefficients for PQI #02 – Perforated Appendix Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	0.3010	0.0665	20.46	<.0001
SEX	Female	1	-0.0913	0.0851	1.15	0.2835
AGE5	Males	1	-1.7227	0.0686	630.68	<.0001
AGE6	Males	1	-1.7674	0.0700	637.70	<.0001
AGE7	Males	1	-1.5902	0.0702	513.67	<.0001
AGE8	Males	1	-1.4611	0.0702	433.65	<.0001
AGE9	Males	1	-1.1619	0.0700	275.52	<.0001
AGE10	Males	1	-0.9100	0.0700	169.07	<.0001
AGE11	Males	1	-0.7110	0.0703	102.37	<.0001
AGE12	Males	1	-0.5405	0.0711	57.80	<.0001
AGE13	Males	1	-0.3614	0.0719	25.29	<.0001
AGE14	Males	1	-0.3010	0.0735	16.77	<.0001
AGE15	Males	1	-0.1894	0.0759	6.22	0.0126
AGE16	Males	1	-0.1904	0.0787	5.86	0.0155
AGE17	Males	1	0.0009	0.0843	0.00	0.9919
AGE5	Females	1	-0.3454	0.0896	14.85	0.0001
AGE6	Females	1	-0.1821	0.0922	3.90	0.0482
AGE7	Females	1	-0.2249	0.0924	5.92	0.0150
AGE8	Females	1	-0.1284	0.0919	1.95	0.1622
AGE9	Females	1	-0.2063	0.0913	5.10	0.0239
AGE10	Females	1	-0.1858	0.0908	4.18	0.0408
AGE11	Females	1	-0.0870	0.0910	0.91	0.3390
AGE12	Females	1	-0.1351	0.0921	2.15	0.1422
AGE13	Females	1	-0.1478	0.0935	2.50	0.1141
AGE14	Females	1	-0.0487	0.0959	0.26	0.6115
AGE15	Females	1	-0.0544	0.0999	0.30	0.5861
AGE16	Females	1	0.0289	0.1039	0.08	0.7807
AGE17	Females	1	-0.0689	0.1109	0.39	0.5347

c-statistic 0.669

**Table 3. Risk Adjustment Coefficients for PQI #03 – Diabetes Long-Term Complications Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-5.6225	0.0125	201547.51	<.0001
SEX	Female	1	-0.2406	0.0160	225.19	<.0001
AGE5	Males	1	-3.6969	0.0332	12401.02	<.0001
AGE6	Males	1	-2.6558	0.0243	11911.99	<.0001
AGE7	Males	1	-2.0970	0.0208	10204.08	<.0001
AGE8	Males	1	-1.6934	0.0183	8592.58	<.0001
AGE9	Males	1	-1.2723	0.0164	6003.87	<.0001
AGE10	Males	1	-0.9424	0.0153	3790.72	<.0001
AGE11	Males	1	-0.6523	0.0148	1950.94	<.0001
AGE12	Males	1	-0.5134	0.0148	1210.79	<.0001
AGE13	Males	1	-0.3743	0.0149	634.42	<.0001
AGE14	Males	1	-0.1745	0.0150	134.77	<.0001
AGE15	Males	1	-0.0428	0.0154	7.74	0.0054
AGE16	Males	1	0.0871	0.0156	31.01	<.0001
AGE17	Males	1	0.1443	0.0164	77.07	<.0001
AGE5	Females	1	0.7314	0.0426	295.37	<.0001
AGE6	Females	1	0.5753	0.0319	325.56	<.0001
AGE7	Females	1	0.2815	0.0283	98.86	<.0001
AGE8	Females	1	0.1429	0.0251	32.39	<.0001
AGE9	Females	1	-0.0362	0.0227	2.53	0.1119
AGE10	Females	1	-0.1603	0.0211	57.54	<.0001
AGE11	Females	1	-0.1633	0.0202	65.51	<.0001
AGE12	Females	1	-0.1200	0.0200	35.85	<.0001
AGE13	Females	1	-0.0714	0.0201	12.67	0.0004
AGE14	Females	1	-0.0965	0.0203	22.61	<.0001
AGE15	Females	1	-0.0228	0.0206	1.23	0.2683
AGE16	Females	1	0.0062	0.0207	0.09	0.7632
AGE17	Females	1	0.0208	0.0215	0.93	0.3339

c-statistic 0.648

**Table 4. Risk Adjustment Coefficients for PQI #05 – Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-4.3461	0.0067	423651.76	<.0001
SEX	Female	1	-0.1341	0.0084	256.26	<.0001
AGE9	Males	1	-2.5260	0.0124	41213.04	<.0001
AGE10	Males	1	-2.0095	0.0104	37582.11	<.0001
AGE11	Males	1	-1.6212	0.0095	29309.77	<.0001
AGE12	Males	1	-1.3229	0.0091	21123.61	<.0001
AGE13	Males	1	-0.9158	0.0087	11116.02	<.0001
AGE14	Males	1	-0.4815	0.0084	3263.53	<.0001
AGE15	Males	1	-0.1985	0.0084	554.68	<.0001
AGE16	Males	1	0.0070	0.0085	0.68	0.4111
AGE17	Males	1	0.1211	0.0088	188.95	<.0001
AGE9	Females	1	0.9483	0.0151	3926.57	<.0001
AGE10	Females	1	0.8228	0.0128	4132.64	<.0001
AGE11	Females	1	0.7072	0.0118	3571.86	<.0001
AGE12	Females	1	0.5652	0.0115	2414.11	<.0001
AGE13	Females	1	0.4519	0.0110	1674.42	<.0001
AGE14	Females	1	0.3298	0.0108	938.42	<.0001
AGE15	Females	1	0.2517	0.0108	545.44	<.0001
AGE16	Females	1	0.1535	0.0108	200.73	<.0001
AGE17	Females	1	0.0785	0.0112	48.87	<.0001

c-statistic 0.687



**Table 5. Risk Adjustment Coefficients for PQI #07 – Hypertension Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-6.6024	0.0204	104784.36	<.0001
SEX	Female	1	0.7159	0.0228	988.39	<.0001
AGE5	Males	1	-3.7542	0.0555	4571.97	<.0001
AGE6	Males	1	-2.6201	0.0392	4473.12	<.0001
AGE7	Males	1	-1.8956	0.0318	3547.85	<.0001
AGE8	Males	1	-1.2726	0.0269	2233.06	<.0001
AGE9	Males	1	-0.9296	0.0251	1373.57	<.0001
AGE10	Males	1	-0.7203	0.0241	893.00	<.0001
AGE11	Males	1	-0.5988	0.0239	628.71	<.0001
AGE12	Males	1	-0.5580	0.0242	532.06	<.0001
AGE13	Males	1	-0.5978	0.0251	568.59	<.0001
AGE14	Males	1	-0.5018	0.0259	375.72	<.0001
AGE15	Males	1	-0.3787	0.0267	201.11	<.0001
AGE16	Males	1	-0.2763	0.0274	101.61	<.0001
AGE17	Males	1	-0.1136	0.0284	16.05	<.0001
AGE5	Females	1	-0.5958	0.0753	62.57	<.0001
AGE6	Females	1	-0.7389	0.0532	193.00	<.0001
AGE7	Females	1	-0.8041	0.0423	362.06	<.0001
AGE8	Females	1	-0.8464	0.0344	605.49	<.0001
AGE9	Females	1	-0.7995	0.0310	664.60	<.0001
AGE10	Females	1	-0.7385	0.0291	643.33	<.0001
AGE11	Females	1	-0.6757	0.0286	558.91	<.0001
AGE12	Females	1	-0.6456	0.0290	496.92	<.0001
AGE13	Females	1	-0.4823	0.0298	262.16	<.0001
AGE14	Females	1	-0.3509	0.0305	132.57	<.0001
AGE15	Females	1	-0.1911	0.0310	37.99	<.0001
AGE16	Females	1	-0.0710	0.0314	5.10	0.0239
AGE17	Females	1	0.0059	0.0321	0.03	0.8551

c-statistic 0.554

**Table 6. Risk Adjustment Coefficients for PQI #08 – Congestive Heart Failure (CHF) Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-3.1803	0.0038	688388.62	<.0001
SEX	Female	1	-0.1149	0.0048	576.18	<.0001
AGE5	Males	1	-6.4136	0.0355	32683.91	<.0001
AGE6	Males	1	-5.5246	0.0261	44787.44	<.0001
AGE7	Males	1	-4.8557	0.0198	60337.96	<.0001
AGE8	Males	1	-4.2373	0.0145	85294.02	<.0001
AGE9	Males	1	-3.6561	0.0110	110398.68	<.0001
AGE10	Males	1	-3.1887	0.0089	129677.43	<.0001
AGE11	Males	1	-2.7308	0.0076	130066.29	<.0001
AGE12	Males	1	-2.3928	0.0070	115695.78	<.0001
AGE13	Males	1	-2.0281	0.0066	93543.89	<.0001
AGE14	Males	1	-1.6125	0.0064	64563.76	<.0001
AGE15	Males	1	-1.2258	0.0062	39725.37	<.0001
AGE16	Males	1	-0.8143	0.0058	19444.03	<.0001
AGE17	Males	1	-0.3999	0.0057	4924.93	<.0001
AGE5	Females	1	-0.0124	0.0525	0.06	0.8136
AGE6	Females	1	-0.2532	0.0411	37.87	<.0001
AGE7	Females	1	-0.3238	0.0316	104.98	<.0001
AGE8	Females	1	-0.4766	0.0240	394.73	<.0001
AGE9	Females	1	-0.4059	0.0175	536.34	<.0001
AGE10	Females	1	-0.3812	0.0137	772.05	<.0001
AGE11	Females	1	-0.3508	0.0115	936.51	<.0001
AGE12	Females	1	-0.2964	0.0104	814.40	<.0001
AGE13	Females	1	-0.2131	0.0095	505.56	<.0001
AGE14	Females	1	-0.1958	0.0089	483.90	<.0001
AGE15	Females	1	-0.1374	0.0084	267.51	<.0001
AGE16	Females	1	-0.1217	0.0078	243.54	<.0001
AGE17	Females	1	-0.0968	0.0074	170.20	<.0001

c-statistic 0.847

**Table 7. Risk Adjustment Coefficients for PQI #10 – Dehydration Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-4.4744	0.0071	396173.10	<.0001
SEX	Female	1	0.1215	0.0086	201.92	<.0001
AGE5	Males	1	-3.5356	0.0175	40870.05	<.0001
AGE6	Males	1	-3.4796	0.0191	33142.93	<.0001
AGE7	Males	1	-3.3811	0.0191	31360.10	<.0001
AGE8	Males	1	-3.2052	0.0175	33692.44	<.0001
AGE9	Males	1	-2.9546	0.0156	35958.87	<.0001
AGE10	Males	1	-2.6638	0.0137	37788.24	<.0001
AGE11	Males	1	-2.4038	0.0127	35599.14	<.0001
AGE12	Males	1	-2.1777	0.0123	31122.54	<.0001
AGE13	Males	1	-1.8757	0.0119	24854.25	<.0001
AGE14	Males	1	-1.5189	0.0116	17148.63	<.0001
AGE15	Males	1	-1.1545	0.0113	10432.18	<.0001
AGE16	Males	1	-0.8085	0.0109	5488.20	<.0001
AGE17	Males	1	-0.4041	0.0106	1443.44	<.0001
AGE5	Females	1	0.1775	0.0230	59.70	<.0001
AGE6	Females	1	0.2060	0.0250	67.98	<.0001
AGE7	Females	1	0.2625	0.0246	113.52	<.0001
AGE8	Females	1	0.2658	0.0224	140.76	<.0001
AGE9	Females	1	0.2094	0.0201	108.88	<.0001
AGE10	Females	1	0.1347	0.0177	57.86	<.0001
AGE11	Females	1	0.1555	0.0163	90.44	<.0001
AGE12	Females	1	0.1370	0.0158	74.94	<.0001
AGE13	Females	1	0.1019	0.0152	44.83	<.0001
AGE14	Females	1	0.0429	0.0148	8.36	0.0038
AGE15	Females	1	0.0414	0.0143	8.36	0.0038
AGE16	Females	1	0.0551	0.0136	16.41	<.0001
AGE17	Females	1	0.0180	0.0131	1.88	0.1708

c-statistic 0.738

**Table 8. Risk Adjustment Coefficients for PQI #11 – Bacterial Pneumonia Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-3.4182	0.0043	637598.06	<.0001
SEX	Female	1	-0.2366	0.0055	1875.85	<.0001
AGE5	Males	1	-4.3066	0.0145	88173.31	<.0001
AGE6	Males	1	-4.1413	0.0152	74382.58	<.0001
AGE7	Males	1	-3.8657	0.0140	76350.80	<.0001
AGE8	Males	1	-3.5965	0.0122	86649.38	<.0001
AGE9	Males	1	-3.2655	0.0105	97224.63	<.0001
AGE10	Males	1	-2.9327	0.0090	106312.26	<.0001
AGE11	Males	1	-2.6515	0.0083	103003.25	<.0001
AGE12	Males	1	-2.4150	0.0080	92024.14	<.0001
AGE13	Males	1	-2.0832	0.0076	75523.51	<.0001
AGE14	Males	1	-1.6550	0.0072	52624.62	<.0001
AGE15	Males	1	-1.2263	0.0069	31637.42	<.0001
AGE16	Males	1	-0.8080	0.0065	15320.94	<.0001
AGE17	Males	1	-0.4011	0.0064	3958.81	<.0001
AGE5	Females	1	0.2751	0.0204	181.76	<.0001
AGE6	Females	1	0.3924	0.0208	357.09	<.0001
AGE7	Females	1	0.3726	0.0191	378.84	<.0001
AGE8	Females	1	0.4169	0.0165	641.07	<.0001
AGE9	Females	1	0.3570	0.0142	631.76	<.0001
AGE10	Females	1	0.3336	0.0122	753.79	<.0001
AGE11	Females	1	0.3265	0.0111	859.10	<.0001
AGE12	Females	1	0.2872	0.0108	711.66	<.0001
AGE13	Females	1	0.2497	0.0102	594.63	<.0001
AGE14	Females	1	0.1559	0.0098	253.61	<.0001
AGE15	Females	1	0.0701	0.0094	56.16	<.0001
AGE16	Females	1	-0.0043	0.0088	0.24	0.6246
AGE17	Females	1	-0.0384	0.0085	20.62	<.0001

c-statistic 0.793

**Table 9. Risk Adjustment Coefficients for PQI #12 – Urinary Tract Infection Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-4.3151	0.0066	430431.86	<.0001
SEX	Female	1	0.5380	0.0075	5151.53	<.0001
AGE5	Males	1	-4.6103	0.0261	31224.81	<.0001
AGE6	Males	1	-4.4142	0.0270	26823.14	<.0001
AGE7	Males	1	-4.1776	0.0252	27404.31	<.0001
AGE8	Males	1	-3.9889	0.0228	30717.63	<.0001
AGE9	Males	1	-3.7732	0.0204	34331.02	<.0001
AGE10	Males	1	-3.4835	0.0176	39310.99	<.0001
AGE11	Males	1	-3.1703	0.0158	40493.99	<.0001
AGE12	Males	1	-2.8792	0.0148	37990.44	<.0001
AGE13	Males	1	-2.4729	0.0136	33215.71	<.0001
AGE14	Males	1	-1.9619	0.0124	24886.10	<.0001
AGE15	Males	1	-1.4393	0.0114	15844.08	<.0001
AGE16	Males	1	-0.9497	0.0105	8154.68	<.0001
AGE17	Males	1	-0.4643	0.0100	2155.35	<.0001
AGE5	Females	1	1.7931	0.0275	4236.36	<.0001
AGE6	Females	1	1.3927	0.0290	2301.39	<.0001
AGE7	Females	1	1.1041	0.0277	1586.81	<.0001
AGE8	Females	1	0.8872	0.0254	1218.09	<.0001
AGE9	Females	1	0.6657	0.0232	822.75	<.0001
AGE10	Females	1	0.4430	0.0205	468.99	<.0001
AGE11	Females	1	0.2513	0.0188	179.51	<.0001
AGE12	Females	1	0.1383	0.0178	60.40	<.0001
AGE13	Females	1	0.0403	0.0164	5.99	0.0144
AGE14	Females	1	-0.0764	0.0152	25.37	<.0001
AGE15	Females	1	-0.0631	0.0137	21.10	<.0001
AGE16	Females	1	-0.0670	0.0125	28.86	<.0001
AGE17	Females	1	-0.0403	0.0117	11.94	0.0005

c-statistic 0.775

**Table 10. Risk Adjustment Coefficients for PQI #13 – Angina Without Procedure Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-7.2688	0.0284	65312.46	<.0001
SEX	Female	1	0.1191	0.0342	12.12	0.0005
AGE5	Males	1	-4.9895	0.1366	1333.70	<.0001
AGE6	Males	1	-3.8820	0.0922	1772.66	<.0001
AGE7	Males	1	-2.7428	0.0593	2137.71	<.0001
AGE8	Males	1	-1.9443	0.0446	1902.54	<.0001
AGE9	Males	1	-1.1558	0.0365	1005.38	<.0001
AGE10	Males	1	-0.7783	0.0339	527.08	<.0001
AGE11	Males	1	-0.5345	0.0330	261.98	<.0001
AGE12	Males	1	-0.4434	0.0332	178.32	<.0001
AGE13	Males	1	-0.3778	0.0338	125.08	<.0001
AGE14	Males	1	-0.3301	0.0350	88.91	<.0001
AGE15	Males	1	-0.2176	0.0361	36.40	<.0001
AGE16	Males	1	-0.1259	0.0370	11.57	0.0007
AGE17	Males	1	-0.0393	0.0389	1.02	0.3114
AGE5	Females	1	-0.7615	0.2340	10.60	0.0011
AGE6	Females	1	-0.5274	0.1446	13.30	0.0003
AGE7	Females	1	-0.6036	0.0917	43.35	<.0001
AGE8	Females	1	-0.4778	0.0636	56.40	<.0001
AGE9	Females	1	-0.4095	0.0488	70.44	<.0001
AGE10	Females	1	-0.3102	0.0437	50.36	<.0001
AGE11	Females	1	-0.2472	0.0420	34.68	<.0001
AGE12	Females	1	-0.2020	0.0421	23.07	<.0001
AGE13	Females	1	-0.1871	0.0428	19.12	<.0001
AGE14	Females	1	-0.0888	0.0441	4.05	0.0441
AGE15	Females	1	-0.0706	0.0453	2.43	0.1190
AGE16	Females	1	-0.0262	0.0460	0.32	0.5698
AGE17	Females	1	0.0060	0.0478	0.02	0.8997

c-statistic Measures of association between the observed and predicted values were not calculated because the predicted probabilities are indistinguishable when they are classified into intervals of length 0.002.

**Table 11. Risk Adjustment Coefficients for PQI #14 – Uncontrolled Diabetes Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-7.9566	0.0401	39364.01	<.0001
SEX	Female	1	0.0449	0.0488	0.85	0.3577
AGE5	Males	1	-1.8034	0.0555	1057.00	<.0001
AGE6	Males	1	-1.3596	0.0533	651.65	<.0001
AGE7	Males	1	-1.0469	0.0510	421.97	<.0001
AGE8	Males	1	-0.6214	0.0473	172.94	<.0001
AGE9	Males	1	-0.3752	0.0456	67.61	<.0001
AGE10	Males	1	-0.2332	0.0447	27.18	<.0001
AGE11	Males	1	-0.1265	0.0445	8.08	0.0045
AGE12	Males	1	-0.1959	0.0454	18.60	<.0001
AGE13	Males	1	-0.1820	0.0464	15.39	<.0001
AGE14	Males	1	-0.0640	0.0474	1.83	0.1763
AGE15	Males	1	-0.0192	0.0491	0.15	0.6953
AGE16	Males	1	0.0674	0.0503	1.80	0.1803
AGE17	Males	1	0.1664	0.0524	10.10	0.0015
AGE5	Females	1	0.0318	0.0727	0.19	0.6616
AGE6	Females	1	-0.2294	0.0718	10.23	0.0014
AGE7	Females	1	-0.2634	0.0681	14.97	0.0001
AGE8	Females	1	-0.3387	0.0621	29.79	<.0001
AGE9	Females	1	-0.3452	0.0591	34.14	<.0001
AGE10	Females	1	-0.2588	0.0570	20.63	<.0001
AGE11	Females	1	-0.0859	0.0560	2.36	0.1245
AGE12	Females	1	0.0029	0.0570	0.00	0.9595
AGE13	Females	1	0.0199	0.0583	0.12	0.7324
AGE14	Females	1	0.0061	0.0596	0.01	0.9186
AGE15	Females	1	0.1175	0.0612	3.68	0.0551
AGE16	Females	1	0.1031	0.0625	2.72	0.0989
AGE17	Females	1	0.0656	0.0647	1.03	0.3110

c-statistic not calculated

**Table 12. Risk Adjustment Coefficients for PQI #15 – Asthma in Younger Adults Admission Rate**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-7.5367	0.0149	257570.27	<.0001
SEX	Female	1	0.9318	0.0176	2816.15	<.0001
AGE5	Males	1	-0.4528	0.0217	435.68	<.0001
AGE6	Males	1	-0.4660	0.0235	394.14	<.0001
AGE7	Males	1	-0.2609	0.0227	131.68	<.0001
AGE5	Females	1	-0.3055	0.0264	133.51	<.0001
AGE6	Females	1	-0.1162	0.0281	17.08	<.0001
AGE7	Females	1	-0.0398	0.0270	2.17	0.1410

c-statistic Measures of association between the observed and predicted values were not calculated because the predicted probabilities are indistinguishable when they are classified into intervals of length 0.002.



**Table 13. Risk Adjustment Coefficients for PQI #16 – Rate of Lower-Extremity Amputation Among Patients With Diabetes**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-7.4280	0.0308	58176.10	<.0001
SEX	Female	1	-0.4266	0.0410	108.42	<.0001
AGE5	Males	1	-6.3695	0.2901	481.94	<.0001
AGE6	Males	1	-4.3838	0.1259	1212.72	<.0001
AGE7	Males	1	-3.4376	0.0855	1615.50	<.0001
AGE8	Males	1	-2.5127	0.0582	1864.13	<.0001
AGE9	Males	1	-1.8077	0.0460	1542.81	<.0001
AGE10	Males	1	-1.2250	0.0396	954.64	<.0001
AGE11	Males	1	-0.7731	0.0370	437.03	<.0001
AGE12	Males	1	-0.4264	0.0359	141.30	<.0001
AGE13	Males	1	-0.1848	0.0356	26.91	<.0001
AGE14	Males	1	0.0613	0.0358	2.94	0.0864
AGE15	Males	1	0.1942	0.0365	28.35	<.0001
AGE16	Males	1	0.2506	0.0374	44.83	<.0001
AGE17	Males	1	0.2694	0.0394	46.76	<.0001
AGE5	Females	1	-0.0582	0.4765	0.01	0.9028
AGE6	Females	1	-0.0017	0.2010	0.00	0.9931
AGE7	Females	1	-0.0581	0.1367	0.18	0.6706
AGE8	Females	1	-0.1518	0.0922	2.71	0.0996
AGE9	Females	1	-0.3879	0.0740	27.49	<.0001
AGE10	Females	1	-0.3861	0.0606	40.65	<.0001
AGE11	Females	1	-0.4325	0.0553	61.16	<.0001
AGE12	Females	1	-0.4176	0.0526	62.95	<.0001
AGE13	Females	1	-0.3357	0.0514	42.71	<.0001
AGE14	Females	1	-0.3857	0.0516	55.78	<.0001
AGE15	Females	1	-0.3940	0.0527	55.84	<.0001
AGE16	Females	1	-0.2250	0.0528	18.17	<.0001
AGE17	Females	1	-0.1926	0.0550	12.27	0.0005

c-statistic Measures of association between the observed and predicted values were not calculated because the predicted probabilities are indistinguishable when they are classified into intervals of length 0.002.

**Table 14. Risk Adjustment Coefficients for PQI #90<sup>1</sup> – Overall PQI**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-2.0358	0.0024	751974.69	<.0001
SEX	Female	1	-0.0097	0.0029	11.31	0.0008
AGE5	Males	1	-3.9816	0.0064	391747.96	<.0001
AGE6	Males	1	-3.8510	0.0068	325687.66	<.0001
AGE7	Males	1	-3.5905	0.0063	326214.16	<.0001
AGE8	Males	1	-3.2829	0.0055	362621.03	<.0001
AGE9	Males	1	-2.8991	0.0047	389228.34	<.0001
AGE10	Males	1	-2.5653	0.0041	397205.30	<.0001
AGE11	Males	1	-2.2692	0.0038	361288.77	<.0001
AGE12	Males	1	-2.0463	0.0037	309034.95	<.0001
AGE13	Males	1	-1.7483	0.0036	238776.76	<.0001
AGE14	Males	1	-1.3692	0.0035	153462.87	<.0001
AGE15	Males	1	-1.0220	0.0035	87489.63	<.0001
AGE16	Males	1	-0.6765	0.0034	40091.83	<.0001
AGE17	Males	1	-0.3258	0.0034	9257.83	<.0001
AGE5	Females	1	0.5976	0.0080	5600.69	<.0001
AGE6	Females	1	0.4626	0.0087	2856.40	<.0001
AGE7	Females	1	0.3514	0.0082	1836.36	<.0001
AGE8	Females	1	0.2631	0.0072	1343.30	<.0001
AGE9	Females	1	0.1838	0.0062	892.76	<.0001
AGE10	Females	1	0.1351	0.0054	632.38	<.0001
AGE11	Females	1	0.1065	0.0050	457.47	<.0001
AGE12	Females	1	0.0745	0.0049	235.15	<.0001
AGE13	Females	1	0.0619	0.0047	173.72	<.0001
AGE14	Females	1	0.0079	0.0046	2.98	0.0843
AGE15	Females	1	-0.0038	0.0045	0.70	0.4022
AGE16	Females	1	-0.0328	0.0043	56.94	<.0001
AGE17	Females	1	-0.0439	0.0043	104.67	<.0001

c-statistic 0.784

<sup>1</sup> This PQI composite includes: PQIs #01, #03, #05, #07, #08, #10, #11, #12, #15 and #16. For more information see the [QI User Guide: PQI Composite Measures](#).

**Table 15. Risk Adjustment Coefficients for PQI #91<sup>2</sup> – Acute PQI**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-2.8212	0.0033	749679.37	<.0001
SEX	Female	1	0.0749	0.0040	359.72	<.0001
AGE5	Males	1	-4.1838	0.0102	168010.65	<.0001
AGE6	Males	1	-4.0523	0.0108	139625.17	<.0001
AGE7	Males	1	-3.8396	0.0103	139257.50	<.0001
AGE8	Males	1	-3.6105	0.0092	155524.27	<.0001
AGE9	Males	1	-3.3190	0.0080	172768.00	<.0001
AGE10	Males	1	-3.0032	0.0069	189214.55	<.0001
AGE11	Males	1	-2.7226	0.0063	184301.56	<.0001
AGE12	Males	1	-2.4801	0.0061	165383.61	<.0001
AGE13	Males	1	-2.1432	0.0058	136608.31	<.0001
AGE14	Males	1	-1.7162	0.0055	96486.86	<.0001
AGE15	Males	1	-1.2814	0.0053	58982.20	<.0001
AGE16	Males	1	-0.8592	0.0050	29547.30	<.0001
AGE17	Males	1	-0.4281	0.0049	7745.29	<.0001
AGE5	Females	1	0.8457	0.0122	4816.22	<.0001
AGE6	Females	1	0.6860	0.0132	2692.40	<.0001
AGE7	Females	1	0.5612	0.0128	1934.10	<.0001
AGE8	Females	1	0.4755	0.0115	1719.76	<.0001
AGE9	Females	1	0.3417	0.0102	1126.36	<.0001
AGE10	Females	1	0.2414	0.0089	737.95	<.0001
AGE11	Females	1	0.1982	0.0082	585.27	<.0001
AGE12	Females	1	0.1519	0.0079	368.93	<.0001
AGE13	Females	1	0.1066	0.0075	201.16	<.0001
AGE14	Females	1	0.0216	0.0072	9.09	0.0026
AGE15	Females	1	-0.0088	0.0068	1.68	0.1953
AGE16	Females	1	-0.0344	0.0064	29.19	<.0001
AGE17	Females	1	-0.0382	0.0061	39.46	<.0001

c-statistic 0.796

<sup>2</sup> This PQI composite includes: PQIs #10, #11 and #12. For more information see the [QI User Guide: PQI Composite Measures](#).

**Table 16. Risk Adjustment Coefficients for PQI #92<sup>3</sup> – Chronic PQI**

PARAMETER		DF	ESTIMATE	STANDARD ERROR	WALD CHI-SQUARE	PR > CHI-SQUARE
Intercept		1	-2.7638	0.0032	756960.71	<.0001
SEX	Female	1	-0.0947	0.0040	574.74	<.0001
AGE5	Males	1	-3.7213	0.0081	210483.21	<.0001
AGE6	Males	1	-3.5915	0.0086	174544.05	<.0001
AGE7	Males	1	-3.3042	0.0079	173714.84	<.0001
AGE8	Males	1	-2.9565	0.0068	189409.35	<.0001
AGE9	Males	1	-2.5316	0.0058	193895.98	<.0001
AGE10	Males	1	-2.1918	0.0051	186503.43	<.0001
AGE11	Males	1	-1.8911	0.0047	159681.95	<.0001
AGE12	Males	1	-1.6785	0.0046	131039.70	<.0001
AGE13	Males	1	-1.4014	0.0045	95275.56	<.0001
AGE14	Males	1	-1.0516	0.0045	55349.58	<.0001
AGE15	Males	1	-0.7606	0.0045	28929.45	<.0001
AGE16	Males	1	-0.4769	0.0044	11603.31	<.0001
AGE17	Males	1	-0.2063	0.0045	2106.78	<.0001
AGE5	Females	1	0.4129	0.0107	1496.09	<.0001
AGE6	Females	1	0.3039	0.0115	692.47	<.0001
AGE7	Females	1	0.2249	0.0108	436.05	<.0001
AGE8	Females	1	0.1603	0.0093	299.50	<.0001
AGE9	Females	1	0.1417	0.0078	332.91	<.0001
AGE10	Females	1	0.1261	0.0068	345.62	<.0001
AGE11	Females	1	0.1070	0.0063	288.47	<.0001
AGE12	Females	1	0.0802	0.0062	168.87	<.0001
AGE13	Females	1	0.0809	0.0060	181.64	<.0001
AGE14	Females	1	0.0403	0.0059	46.81	<.0001
AGE15	Females	1	0.0330	0.0059	31.84	<.0001
AGE16	Females	1	-0.0043	0.0057	0.55	0.4579
AGE17	Females	1	-0.0299	0.0058	26.94	<.0001

c-statistic 0.771

<sup>3</sup> This PQI composite includes: PQIs #01, #03, #05, #07, #08, #15 and #16. For more information see the [QI User Guide: PQI Composite Measures](#).

**Table A.1. Population Age Categories**

POPCAT	AGE RANGE
1	low - 4
2	5 - 9
3	10 - 14
4	15 - 17
5	18 - 24
6	25 - 29
7	30 - 34
8	35 - 39
9	40 - 44
10	45 - 49
11	50 - 54
12	55 - 59
13	60 - 64
14	65 - 69
15	70 - 74
16	75 - 79
17	80 - 84
18	85 - high