*AHRQ Quality Indicators™*

# INPATIENT QUALITY INDICATORS (IQI) PARAMETER ESTIMATES
## Version 5.0

**Prepared for:**

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# Executive Summary

This document provides statistical parameters associated with version 5.0 of Agency for Healthcare Research and Quality (AHRQ) Quality Indicators™ (QI) Inpatient Quality Indicators (IQI). The parameter estimates derived for the AHRQ QI are based on analysis of the 2012 Agency for Healthcare Research and Quality's Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID). HCUP is a family of health care databases and related software tools and products developed through a Federal-State-Industry partnership.[1] HCUP includes the largest collection of longitudinal hospital care data in the United States, with all-payer, encounter-level information beginning in 1988. The SID contain all-payer, encounter-level information on inpatient discharges, including clinical and resource information typically found on a billing record, such as patient demographics, up to 30 *International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)* diagnoses and procedures, length of stay (LOS), expected payer, admission and discharge dates and discharge disposition. To calculate parameter estimates we used a subset of 36 states that report information about whether a diagnosis was present on admission (POA) and information on the timing of procedures during the hospitalizations representing 82 percent of the US community hospital discharges.[2]

Two types of parameters are listed here. The majority of the document is devoted to listing covariates and coefficients for risk adjustment logistic regression models. The document also lists weights used to calculate the composite indicator, IQI #91.

The regression coefficients are used by the prediction module to calculate risk-adjusted rates that account for differences in patient populations across providers or across areas. Covariates that are considered as potential risk adjusters include gender and age, Major Diagnostic Categories (MDC), All Payer Refined Diagnosis Related Group (APR-DRG), patient point-of-origin and whether they were transferred from another facility. Descriptions of some variable categories are provided in the Appendix tables at the end of the document. Every covariate in every model is a

[1] The AHRQ QI program would like to acknowledge the HCUP Partner organizations that participated in the HCUP SID: **Alaska** State Hospital and Nursing Home Association, **Arizona** Department of Health Services, **Arkansas** Department of Health, **California** Office of Statewide Health Planning and Development, **Colorado** Hospital Association, **Connecticut** Hospital Association, **Florida** Agency for Health Care Administration, **Georgia** Hospital Association, **Hawaii** Health Information Corporation, **Illinois** Department of Public Health, **Indiana** Hospital Association, **Iowa** Hospital Association, **Kansas** Hospital Association, **Kentucky** Cabinet for Health and Family Services, **Louisiana** Department of Health and Hospitals, **Maine** Health Data Organization, **Maryland** Health Services Cost Review Commission, **Massachusetts** Division of Health Care Finance and Policy, **Michigan** Health & Hospital Association, **Minnesota** Hospital Association (provides data for Minnesota and **North Dakota**), **Missouri** Hospital Industry Data Institute, **Montana** MHA - An Association of Montana Health Care Providers, **Nebraska** Hospital Association, **Nevada** Department of Health and Human Services, **New Jersey** Department of Health, **New Mexico** Department of Health, **New York** State Department of Health, **North Carolina** Department of Health and Human Services, **North Dakota** (data provided by the Minnesota Hospital Association), **Ohio** Hospital Association, **Oklahoma** State Department of Health, **Oregon** Association of Hospitals and Health Systems, **Pennsylvania** Health Care Cost Containment Council, **Rhode Island** Department of Health, **South Carolina** Budget & Control Board, **South Dakota** Association of Healthcare Organizations, **Tennessee** Hospital Association, **Texas** Department of State Health Services, **Utah** Department of Health, **Vermont** Association of Hospitals and Health Systems, **Virginia** Health Information, **Washington** State Department of Health, **West Virginia** Health Care Authority, **Wisconsin** Department of Health Services, **Wyoming** Hospital Association

[2] The states included in the analysis are Alaska, Arkansas, Arizona, California, Colorado, Florida, Georgia, Hawaii, Iowa, Illinois, Indiana, Kansas, Kentucky, Massachusetts, Maryland, Maine, Michigan, Minnesota, Montana, North Carolina, Nebraska, New Jersey, New Mexico, Nevada, New York, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Virginia, Vermont, Washington, Wisconsin.

binary indicator variable, coded using 0 or 1. The AHRQ QI software user does not need to manipulate or adjust these coefficients; rather this document is intended to make it transparent to the user how the risk adjusted QI rates are calculated.

The document provides a risk adjustment coefficient table for each risk-adjusted IQI. IQI 9, 11, and 17 are stratified and individual models are fit for each stratum and each stratum has its own table of coefficients. Please note that the 3M™ APR-DRG grouper list is not provided in the Appendix, as this material is copyrighted by 3M™.

Additional information on the risk adjustment process and composite indicators may be found in *Quality Indicator Empirical Methods*, available on the AHRQ QITM website. (http://www.qualityindicators.ahrq.gov/modules/Default.aspx)

## Table 1. Risk Adjustment Coefficients for IQI #8 Esophageal Resection Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -6.6473 | 0.5822 | 130.3636 | <.0001 |
| AGE | 65 to 74 | 1 | -0.1402 | 0.2012 | 0.4853 | 0.486 |
| AGE | 75+ | 1 | 0.3718 | 0.2245 | 2.7414 | 0.0978 |
| APR-DRG | 2203 to 2204 | 1 | 4.0307 | 0.5894 | 46.7676 | <.0001 |
| MDC | 6 | 1 | 5.6752 | 0.6005 | 89.3072 | <.0001 |
| MDC | Other | 1 | 4.5232 | 0.7216 | 39.2845 | <.0001 |

c-statistic=0.867

## Table 2. Risk Adjustment Coefficients for IQI #9 Pancreatic Resection Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -6.9536 | 0.4149 | 280.9148 | <.0001 |
| SEX | Female | 1 | -0.4424 | 0.1083 | 16.6916 | <.0001 |
| AGE | 65 to 74 | 1 | 0.143 | 0.1278 | 1.2509 | 0.2634 |
| AGE | 75+ | 1 | 0.4726 | 0.1329 | 12.635 | 0.0004 |
| APR-DRG | 2603 to 2604 | 1 | 4.1774 | 0.4164 | 100.6542 | <.0001 |
| MDC | 7 | 1 | 6.3828 | 0.4651 | 188.342 | <.0001 |
| MDC | Other | 1 | 3.9543 | 0.4159 | 90.3976 | <.0001 |

c-statistic=0.807

## Table 2A. Risk Adjustment Coefficients for IQI #9A Pancreatic Resection Mortality Rate - Stratum A

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -7.107 | 0.5187 | 187.7502 | <.0001 |
| SEX | Female | 1 | -0.597 | 0.164 | 13.253 | 0.0003 |
| AGE | 65 to 74 | 1 | 0.4705 | 0.213 | 4.8788 | 0.0272 |
| AGE | 75+ | 1 | 0.8037 | 0.2098 | 14.6723 | 0.0001 |
| APR-DRG | 2603 to 2604 | 1 | 4.0703 | 0.5093 | 63.88 | <.0001 |
| MDC | 7 | 1 | 6.4697 | 0.5643 | 131.4267 | <.0001 |
| MDC | Other | 1 | 3.7723 | 0.5527 | 46.5769 | <.0001 |

c-statistic=0.864

## Table 2B. Risk Adjustment Coefficients for IQI #9B Pancreatic Resection Mortality Rate - Stratum B

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -6.9287 | 0.7137 | 94.2361 | <.0001 |
| SEX | Female | 1 | -0.3357 | 0.1462 | 5.2693 | 0.0217 |
| AGE | 65 to 74 | 1 | -0.0191 | 0.175 | 0.0119 | 0.913 |
| AGE | 75+ | 1 | 0.3024 | 0.2035 | 2.2071 | 0.1374 |
| APR-DRG | 2603 to 2604 | 1 | 4.3645 | 0.7254 | 36.1977 | <.0001 |
| MDC | 7 | 1 | 6.0247 | 0.8382 | 51.6637 | <.0001 |
| MDC | Other | 1 | 3.9767 | 0.7126 | 31.1448 | <.0001 |

c-statistic=0.737

## Table 3. Risk Adjustment Coefficients for IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -7.9406 | 0.2953 | 723.1456 | <.0001 |
| SEX | Female | 1 | 0.2625 | 0.0757 | 12.0327 | 0.0005 |
| AGE | 65 to 74 | 1 | 0.3289 | 0.1194 | 7.5858 | 0.0059 |
| AGE | 75 to 79 | 1 | 0.644 | 0.1282 | 25.2436 | <.0001 |
| AGE | 80 to 84 | 1 | 0.8747 | 0.1301 | 45.1898 | <.0001 |
| AGE | 85+ | 1 | 1.1751 | 0.1307 | 80.81 | <.0001 |
| APR-DRG | 1691 to 1692 | 1 | 2.4609 | 0.3695 | 44.3471 | <.0001 |
| APR-DRG | 1693 to 1694 | 1 | 4.9726 | 0.286 | 302.3289 | <.0001 |
| APR-DRG | 1733 to 1734 | 1 | 4.1647 | 0.2873 | 210.1468 | <.0001 |
| MDC | 5 | 1 | 3.6336 | 0.2961 | 150.5896 | <.0001 |
| MDC | Other | 1 | 4.3364 | 0.3348 | 167.731 | <.0001 |
| RUPTURED | | 1 | 1.9027 | 0.073 | 678.6414 | <.0001 |

c-statistic=0.935

## Table 3A. Risk Adjustment Coefficients for IQI #11A Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Stratum A

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -0.5985 | 0.4811 | 1.5477 | 0.2135 |
| SEX | Female | 1 | -0.0943 | 0.1427 | 0.4367 | 0.5087 |
| AGE | 65 to 74 | 1 | 0.3735 | 0.1834 | 4.1465 | 0.0417 |
| AGE | 75 to 79 | 1 | 0.9168 | 0.2039 | 20.2123 | <.0001 |
| AGE | 80 to 84 | 1 | 1.0625 | 0.2158 | 24.2437 | <.0001 |
| AGE | 85+ | 1 | 1.2833 | 0.2247 | 32.6309 | <.0001 |
| APR-DRG | 1691 to 1692 | 1 | -12.626 | 470.5296 | 0.0007 | 0.9786 |
| APR-DRG | 1693 to 1694 | 1 | -0.5083 | 0.459 | 1.2264 | 0.2681 |
| APR-DRG | 1733 to 1734 | 0 | 0 | . | . | <.0001 |
| MDC | 5 | 1 | -1.4247 | 0.5204 | 7.4958 | 0.0062 |
| MDC | Other | 0 | 0 | . | . | <.0001 |
| RUPTURED | | 0 | 0 | . | . | <.0001 |

c-statistic=0.64

## Table 3B. Risk Adjustment Coefficients for IQI #11B Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Stratum B

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -3.1288 | 0.6386 | 24.0069 | <.0001 |
| SEX | Female | 1 | 0.3107 | 0.158 | 3.8665 | 0.0493 |
| AGE | 65 to 74 | 1 | 0.4894 | 0.256 | 3.6526 | 0.056 |
| AGE | 75 to 79 | 1 | 0.6491 | 0.2818 | 5.3057 | 0.0213 |
| AGE | 80 to 84 | 1 | 1.0534 | 0.2862 | 13.5444 | 0.0002 |
| AGE | 85+ | 1 | 1.3222 | 0.3458 | 14.6172 | 0.0001 |
| APR-DRG | 1691 to 1692 | 1 | -2.4275 | 0.6616 | 13.4633 | 0.0002 |
| APR-DRG | 1693 to 1694 | 1 | 0.0951 | 0.6148 | 0.0239 | 0.8771 |
| APR-DRG | 1733 to 1734 | 0 | 0 | 0 | . | <.0001 |
| MDC | 5 | 1 | -0.1392 | 0.6422 | 0.047 | 0.8284 |
| MDC | Other | 0 | 0 | 0 | . | <.0001 |
| RUPTURED | | 0 | 0 | 0 | . | <.0001 |

c-statistic=0.782

## Table 3C. Risk Adjustment Coefficients for IQI #11C Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - Stratum C

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | 19.3149 | 0.3922 | 2424.952 | <.0001 |
| SEX | Female | 1 | 0.1431 | 0.1509 | 0.8989 | 0.3431 |
| AGE | 65 to 74 | 1 | 0.405 | 0.244 | 2.7538 | 0.097 |
| AGE | 75 to 79 | 1 | 0.7104 | 0.2606 | 7.4327 | 0.0064 |
| AGE | 80 to 84 | 1 | 0.9074 | 0.26 | 12.1807 | 0.0005 |
| AGE | 85+ | 1 | 1.2963 | 0.2451 | 27.9603 | <.0001 |
| APR-DRG | 1691 to 1692 | 0 | 0 | 0 | . | <.0001 |
| APR-DRG | 1693 to 1694 | 1 | -20.902 | 0.4489 | 2168.054 | <.0001 |
| APR-DRG | 1733 to 1734 | 1 | -21.2919 | 0.3425 | 3863.889 | <.0001 |
| MDC | 5 | 1 | -21.3242 | 0.3884 | 3014.93 | <.0001 |
| MDC | Other | 0 | -20.9259 | 0 | . | <.0001 |
| RUPTURED | | 0 | 0 | 0 | . | <.0001 |

c-statistic=0.626

## Table 3D. Risk Adjustment Coefficients for IQI #11D Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate - StratumD

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -7.8219 | 0.4068 | 369.7591 | <.0001 |
| SEX | Female | 1 | 0.654 | 0.1529 | 18.2902 | <.0001 |
| AGE | 65 to 74 | 1 | 0.0276 | 0.343 | 0.0065 | 0.9358 |
| AGE | 75 to 79 | 1 | 0.2013 | 0.3529 | 0.3255 | 0.5683 |
| AGE | 80 to 84 | 1 | 0.4983 | 0.3447 | 2.0893 | 0.1483 |
| AGE | 85+ | 1 | 0.9001 | 0.3409 | 6.9728 | 0.0083 |
| APR-DRG | 1691 to 1692 | 1 | 2.2378 | 0.7664 | 8.5251 | 0.0035 |
| APR-DRG | 1693 to 1694 | 1 | 5.1428 | 0.3895 | 174.359 | <.0001 |
| APR-DRG | 1733 to 1734 | 1 | 4.3437 | 0.3046 | 203.409 | <.0001 |
| MDC | 5 | 1 | 2.9095 | 0.3478 | 69.9614 | <.0001 |
| MDC | Other | 1 | 3.7426 | 0.4467 | 70.1921 | <.0001 |
| RUPTURED | | 0 | 0 | 0 | . | <.0001 |

c-statistic=0.92

## Table 4. Risk Adjustment Coefficients for IQI #12 Coronary Artery Bypass Graft (CABG) Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -8.167 | 0.5021 | 264.6126 | <.0001 |
| SEX | Female | 1 | 0.3315 | 0.0349 | 89.9812 | <.0001 |
| AGE | 40 to 49 | 1 | -0.1666 | 0.1097 | 2.305 | 0.129 |
| AGE | 50 to 54 | 1 | -0.108 | 0.0964 | 1.255 | 0.2626 |
| AGE | 55 to 59 | 1 | -0.0563 | 0.0807 | 0.4865 | 0.4855 |
| AGE | 65 to 84 | 1 | 0.1315 | 0.055 | 5.7218 | 0.0168 |
| AGE | 85+ | 1 | 0.3837 | 0.0851 | 20.3469 | <.0001 |
| APR-DRG | 1611 to 1612 | 1 | 4.715 | 0.7135 | 43.6638 | <.0001 |
| APR-DRG | 1613 | 1 | 5.227 | 0.541 | 93.3576 | <.0001 |
| APR-DRG | 1614 | 1 | 6.7291 | 0.5084 | 175.1609 | <.0001 |
| APR-DRG | 1621 to 1622 | 1 | 2.6686 | 0.5675 | 22.1107 | <.0001 |
| APR-DRG | 1623 | 1 | 4.2983 | 0.5118 | 70.5421 | <.0001 |
| APR-DRG | 1624 | 1 | 6.2701 | 0.5033 | 155.1861 | <.0001 |
| APR-DRG | 1631 to 1632 | 1 | 2.1764 | 0.5375 | 16.3972 | <.0001 |
| APR-DRG | 1633 | 1 | 4.3678 | 0.5067 | 74.3039 | <.0001 |
| APR-DRG | 1634 | 1 | 6.3124 | 0.503 | 157.5069 | <.0001 |
| APR-DRG | 1652 | 1 | 1.7555 | 0.5194 | 11.4238 | 0.0007 |
| APR-DRG | 1653 | 1 | 3.5328 | 0.5041 | 49.1047 | <.0001 |
| APR-DRG | 1654 | 1 | 5.8705 | 0.5013 | 137.135 | <.0001 |
| APR-DRG | 1661 | 1 | 1.4986 | 0.5174 | 8.3899 | 0.0038 |
| APR-DRG | 1663 | 1 | 3.5893 | 0.5066 | 50.1983 | <.0001 |
| APR-DRG | 1664 | 1 | 5.9151 | 0.5026 | 138.4872 | <.0001 |
| MDC | 5 | 1 | 6.868 | 0.5027 | 186.6567 | <.0001 |
| MDC | Other | 1 | 5.2864 | 0.5112 | 106.9386 | <.0001 |

c-statistic=0.898

## Table 5. Risk Adjustment Coefficients for IQI #13 Craniotomy Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -6.7295 | 0.1631 | 1702.319 | <.0001 |
| AGE | 18 to 24 | 1 | -0.8547 | 0.1356 | 39.751 | <.0001 |
| AGE | 25 to 59 | 1 | -0.0736 | 0.0477 | 2.3827 | 0.1227 |
| AGE | 60+ | 1 | 0.0731 | 0.0471 | 2.4121 | 0.1204 |
| APR-DRG | 212 | 1 | 1.5717 | 0.1854 | 71.8518 | <.0001 |
| APR-DRG | 213 | 1 | 3.8432 | 0.1622 | 561.2004 | <.0001 |
| APR-DRG | 214 | 1 | 6.0145 | 0.1596 | 1419.755 | <.0001 |
| APR-DRG | 0221 to 0222 | 1 | 0.1432 | 0.2898 | 0.2441 | 0.6212 |
| APR-DRG | 223 | 1 | 3.676 | 0.2165 | 288.156 | <.0001 |
| APR-DRG | 224 | 1 | 5.9291 | 0.1694 | 1225.709 | <.0001 |
| APR-DRG | 0231 to 0232 | 1 | 2.0575 | 1.0171 | 4.0921 | 0.0431 |
| APR-DRG | 0233 to 0234 | 1 | 5.1331 | 0.3676 | 194.9896 | <.0001 |
| APR-DRG | 0241 to 0242 | 1 | 1.2229 | 0.2154 | 32.2253 | <.0001 |
| APR-DRG | 243 | 1 | 4.1654 | 0.1788 | 542.4455 | <.0001 |
| APR-DRG | 244 | 1 | 6.0525 | 0.1654 | 1339.527 | <.0001 |
| MDC | 1 | 1 | 4.2047 | 0.2346 | 321.0897 | <.0001 |
| TRNSFER | | 1 | 0.1396 | 0.0329 | 17.9617 | <.0001 |

c-statistic=0.918

## Table 6. Risk Adjustment Coefficients for IQI #14 Hip Replacement Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -8.4426 | 0.306 | 761.2353 | <.0001 |
| SEX | Female | 1 | -0.4399 | 0.1584 | 7.7163 | 0.0055 |
| AGE | 18 to 59 | 1 | -0.5839 | 0.387 | 2.2764 | 0.1314 |
| AGE | 60+ | 1 | -0.0365 | 0.301 | 0.0147 | 0.9035 |
| APR-DRG | 3013 to 3014 | 1 | 4.6708 | 0.2065 | 511.7079 | <.0001 |
| MDC | 8 | 1 | 3.94 | 1.0187 | 14.9581 | 0.0001 |
| MDC | Other | 1 | 4.6209 | 0.5335 | 75.0077 | <.0001 |

c-statistic=0.901

## Table 7. Risk Adjustment Coefficients for IQI #15 Acute Myocardial Infarction (AMI) Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -7.1165 | 0.1201 | 3512.277 | <.0001 |
| AGE | 18 to 39 | 1 | -0.4068 | 0.0899 | 20.4685 | <.0001 |
| AGE | 40 to 44 | 1 | -0.2189 | 0.0706 | 9.6089 | 0.0019 |
| AGE | 45 to 49 | 1 | -0.2427 | 0.0549 | 19.561 | <.0001 |
| AGE | 50 to 54 | 1 | -0.2501 | 0.0439 | 32.4341 | <.0001 |
| AGE | 55 to 59 | 1 | -0.1228 | 0.0383 | 10.2944 | 0.0013 |
| AGE | 65 to 79 | 1 | 0.0449 | 0.0277 | 2.6264 | 0.1051 |
| AGE | 80 to 84 | 1 | 0.1283 | 0.0313 | 16.7528 | <.0001 |
| AGE | 85+ | 1 | 0.3641 | 0.0294 | 153.6422 | <.0001 |
| APR-DRG | 1611 to 1612 | 1 | 2.6906 | 0.3981 | 45.6777 | <.0001 |
| APR-DRG | 1613 to 1614 | 1 | 5.4594 | 0.1269 | 1849.559 | <.0001 |
| APR-DRG | 1621 to 1622 | 1 | 1.7417 | 0.7185 | 5.8753 | 0.0154 |
| APR-DRG | 1623 | 1 | 3.4881 | 0.2508 | 193.3492 | <.0001 |
| APR-DRG | 1624 | 1 | 5.506 | 0.1488 | 1369.386 | <.0001 |
| APR-DRG | 1651 to 1652 | 1 | 1.1177 | 0.2127 | 27.616 | <.0001 |
| APR-DRG | 1653 | 1 | 2.8484 | 0.1453 | 384.1976 | <.0001 |
| APR-DRG | 1654 | 1 | 5.1061 | 0.1252 | 1663.658 | <.0001 |
| APR-DRG | 1731 to 1734 | 1 | 5.1365 | 0.1574 | 1065.584 | <.0001 |
| APR-DRG | 1742 | 1 | 1.622 | 0.132 | 150.9876 | <.0001 |
| APR-DRG | 1743 | 1 | 3.4453 | 0.124 | 771.9065 | <.0001 |
| APR-DRG | 1744 | 1 | 5.9445 | 0.1192 | 2488.872 | <.0001 |
| APR-DRG | 1901 | 1 | 1.6212 | 0.1564 | 107.4042 | <.0001 |
| APR-DRG | 1902 | 1 | 2.9795 | 0.1249 | 569.3856 | <.0001 |
| APR-DRG | 1903 | 1 | 4.316 | 0.1193 | 1308.086 | <.0001 |
| APR-DRG | 1904 | 1 | 6.4592 | 0.119 | 2948.145 | <.0001 |
| MDC | 5 | 1 | 4.768 | 0.1219 | 1529.822 | <.0001 |
| TRNSFER | | 1 | -0.0556 | 0.0203 | 7.5194 | 0.0061 |

c-statistic=0.887

## Table 8. Risk Adjustment Coefficients for IQI #16 Heart Failure Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -5.6447 | 0.072 | 6145.425 | <.0001 |
| SEX | Female | 1 | -0.1762 | 0.0143 | 152.7025 | <.0001 |
| AGE | 18 to 49 | 1 | -0.2465 | 0.0494 | 24.8894 | <.0001 |
| AGE | 50 to 54 | 1 | -0.2931 | 0.0561 | 27.2416 | <.0001 |
| AGE | 55 to 60 | 1 | -0.1913 | 0.0488 | 15.3375 | <.0001 |
| AGE | 65 to 84 | 1 | 0.0427 | 0.0323 | 1.7523 | 0.1856 |
| AGE | 85+ | 1 | 0.554 | 0.0329 | 282.9522 | <.0001 |
| APR-DRG | 1611 | 1 | -1.902 | 0.7104 | 7.1676 | 0.0074 |
| APR-DRG | 1612 | 1 | -0.6779 | 0.2966 | 5.2234 | 0.0223 |
| APR-DRG | 1613 | 1 | 0.5329 | 0.1802 | 8.742 | 0.0031 |
| APR-DRG | 1614 | 1 | 3.5544 | 0.0949 | 1404.083 | <.0001 |
| APR-DRG | 1621 to 1622 | 1 | -6.5772 | 65.9868 | 0.0099 | 0.9206 |
| APR-DRG | 1623 | 1 | 2.3844 | 0.2234 | 113.889 | <.0001 |
| APR-DRG | 1624 | 1 | 3.8115 | 0.1502 | 643.9566 | <.0001 |
| APR-DRG | 1751 to 1753 | 1 | 0.6525 | 0.164 | 15.8296 | <.0001 |
| APR-DRG | 1754 | 1 | 3.6044 | 0.1024 | 1240.139 | <.0001 |
| APR-DRG | 1801 | 1 | -6.4616 | 50.8 | 0.0162 | 0.8988 |
| APR-DRG | 1802 | 1 | 0.3019 | 0.4532 | 0.4438 | 0.5053 |
| APR-DRG | 1803 | 1 | 1.8739 | 0.1815 | 106.5718 | <.0001 |
| APR-DRG | 1804 | 1 | 4.1573 | 0.1257 | 1093.938 | <.0001 |
| APR-DRG | 1911 to 1912 | 1 | -0.8798 | 0.1796 | 23.9938 | <.0001 |
| APR-DRG | 1913 | 1 | 1.3012 | 0.0994 | 171.3955 | <.0001 |
| APR-DRG | 1914 | 1 | 3.6284 | 0.0812 | 1996.492 | <.0001 |
| APR-DRG | 1942 | 1 | 0.7653 | 0.0703 | 118.4766 | <.0001 |
| APR-DRG | 1943 | 1 | 2.0425 | 0.0683 | 895.1371 | <.0001 |
| APR-DRG | 1944 | 1 | 3.8455 | 0.0682 | 3180.95 | <.0001 |
| MDC | Other | 1 | 2.9387 | 0.0747 | 1549.147 | <.0001 |
| TRNSFER | | 1 | 0.6773 | 0.0289 | 547.9524 | <.0001 |
| NOPOUB04 | | 1 | 0.0154 | 0.0186 | 0.6896 | 0.4063 |

c-statistic=0.824

## Table 9. Risk Adjustment Coefficients for IQI #17 Acute Stroke Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -6.0714 | 0.0661 | 8438.872 | <.0001 |
| SEX | Female | 1 | 0.1193 | 0.0133 | 79.9978 | <.0001 |
| AGE | 18 to 59 | 1 | -0.1614 | 0.0278 | 33.7635 | <.0001 |
| AGE | 60 to 84 | 1 | 0.0798 | 0.0256 | 9.7478 | 0.0018 |
| AGE | 85+ | 1 | 0.5421 | 0.0276 | 386.8093 | <.0001 |
| APR-DRG | 211 | 1 | 1.1203 | 0.203 | 30.4392 | <.0001 |
| APR-DRG | 212 | 1 | 2.2229 | 0.1266 | 308.187 | <.0001 |
| APR-DRG | 213 | 1 | 3.8996 | 0.0736 | 2806.007 | <.0001 |
| APR-DRG | 214 | 1 | 5.7412 | 0.0666 | 7430.974 | <.0001 |
| APR-DRG | 221 | 1 | 2.6129 | 1.0172 | 6.5988 | 0.0102 |
| APR-DRG | 222 | 1 | -5.0767 | 46.15 | 0.0121 | 0.9124 |
| APR-DRG | 0223 to 0224 | 1 | 5.3294 | 0.0913 | 3408.067 | <.0001 |
| APR-DRG | 0231 to 0232 | 1 | 0.7803 | 1.0048 | 0.603 | 0.4374 |
| APR-DRG | 233 | 1 | 2.3854 | 0.7211 | 10.9427 | 0.0009 |
| APR-DRG | 234 | 1 | 4.6637 | 0.3189 | 213.8132 | <.0001 |
| APR-DRG | 241 | 1 | 0.6193 | 0.4526 | 1.8722 | 0.1712 |
| APR-DRG | 242 | 1 | 1.0875 | 0.147 | 54.716 | <.0001 |
| APR-DRG | 243 | 1 | 3.2642 | 0.098 | 1110.346 | <.0001 |
| APR-DRG | 244 | 1 | 5.2624 | 0.0767 | 4707.407 | <.0001 |
| APR-DRG | 0261 to 0263 | 1 | 1.0634 | 0.2669 | 15.869 | <.0001 |
| APR-DRG | 264 | 1 | 4.0583 | 0.1865 | 473.3111 | <.0001 |
| APR-DRG | 441 | 1 | 3.1009 | 0.078 | 1580.703 | <.0001 |
| APR-DRG | 442 | 1 | 3.2313 | 0.0682 | 2246.967 | <.0001 |
| APR-DRG | 443 | 1 | 3.9883 | 0.0671 | 3534.655 | <.0001 |
| APR-DRG | 444 | 1 | 6.6046 | 0.0648 | 10389.65 | <.0001 |
| APR-DRG | 452 | 1 | 1.7375 | 0.0663 | 686.432 | <.0001 |
| APR-DRG | 453 | 1 | 3.0598 | 0.0654 | 2188.136 | <.0001 |
| APR-DRG | 454 | 1 | 5.2824 | 0.0644 | 6721.667 | <.0001 |
| MDC | Other | 1 | 3.6688 | 0.0729 | 2532.576 | <.0001 |

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| NOPOUB04 | | 1 | 0.0897 | 0.0166 | 29.2186 | <.0001 |

c-statistic=0.901

## Table 9A. Risk Adjustment Coefficients for IQI #17A Acute Stroke Mortality Rate - Stratum A

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -2.3379 | 0.1175 | 395.6143 | <.0001 |
| SEX | Female | 1 | 0.0487 | 0.0464 | 1.1027 | 0.2937 |
| AGE | 18 to 59 | 1 | -0.1772 | 0.0749 | 5.601 | 0.018 |
| AGE | 60 to 84 | 1 | 0.1912 | 0.0775 | 6.0833 | 0.0136 |
| AGE | 85+ | 1 | 0.5797 | 0.1073 | 29.1755 | <.0001 |
| APR-DRG | 211 | 1 | -2.8503 | 0.4206 | 45.9296 | <.0001 |
| APR-DRG | 212 | 1 | -0.4342 | 0.2115 | 4.2175 | 0.04 |
| APR-DRG | 213 | 1 | 0.2199 | 0.1215 | 3.2769 | 0.0703 |
| APR-DRG | 214 | 1 | 2.1051 | 0.104 | 409.5136 | <.0001 |
| APR-DRG | 221 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 222 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 0223 to 0224 | 1 | 1.3745 | 0.1374 | 100.0827 | <.0001 |
| APR-DRG | 0231 to 0232 | 1 | -1.7756 | 1.013 | 3.0722 | 0.0796 |
| APR-DRG | 233 | 1 | -0.8048 | 1.0281 | 0.6128 | 0.4337 |
| APR-DRG | 234 | 1 | 1.6355 | 0.4038 | 16.407 | <.0001 |
| APR-DRG | 241 | 1 | -3.2725 | 0.5101 | 41.1582 | <.0001 |
| APR-DRG | 242 | 1 | -2.3677 | 0.4595 | 26.5561 | <.0001 |
| APR-DRG | 243 | 1 | -0.4627 | 0.2208 | 4.3926 | 0.0361 |
| APR-DRG | 244 | 1 | 1.4221 | 0.1417 | 100.7513 | <.0001 |
| APR-DRG | 0261 to 0263 | 1 | -10.5151 | 133.8328 | 0.0062 | 0.9374 |
| APR-DRG | 264 | 1 | 0.9229 | 1.1253 | 0.6726 | 0.4121 |
| APR-DRG | 441 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 442 | 1 | -1.4609 | 0.1558 | 87.9065 | <.0001 |
| APR-DRG | 443 | 1 | 0.0479 | 0.1143 | 0.1759 | 0.6749 |
| APR-DRG | 444 | 1 | 3.2174 | 0.1062 | 917.9056 | <.0001 |
| APR-DRG | 452 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 453 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 454 | 0 | 0 | . | . | <.0001 |
| MDC | Other | 0 | 0 | . | . | <.0001 |

**Inpatient Quality Indicators (IQI) Parameter Estimates**

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| NOPOUB04 | | 1 | 0.1556 | 0.0559 | 7.7499 | 0.0054 |

c-statistic=0.878

## Table 9B. Risk Adjustment Coefficients for IQI #17B Acute Stroke Mortality Rate - Stratum B

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -2.182 | 0.07 | 972.6082 | <.0001 |
| SEX | Female | 1 | 0.148 | 0.0219 | 45.6132 | <.0001 |
| AGE | 18 to 59 | 1 | -0.1283 | 0.0421 | 9.2682 | 0.0023 |
| AGE | 60 to 84 | 1 | 0.093 | 0.0394 | 5.5671 | 0.0183 |
| AGE | 85+ | 1 | 0.4944 | 0.0443 | 124.7973 | <.0001 |
| APR-DRG | 211 | 1 | -3.0036 | 0.2661 | 127.4126 | <.0001 |
| APR-DRG | 212 | 1 | -2.2767 | 0.1727 | 173.7425 | <.0001 |
| APR-DRG | 213 | 1 | -0.0321 | 0.0769 | 0.1747 | 0.676 |
| APR-DRG | 214 | 1 | 1.8191 | 0.0683 | 710.2286 | <.0001 |
| APR-DRG | 221 | 1 | -11.4947 | 182.2042 | 0.004 | 0.9497 |
| APR-DRG | 222 | 1 | -11.6328 | 218.4551 | 0.0028 | 0.9575 |
| APR-DRG | 0223 to 0224 | 1 | 1.6566 | 0.1133 | 213.9736 | <.0001 |
| APR-DRG | 0231 to 0232 | 1 | -11.5704 | 107.8807 | 0.0115 | 0.9146 |
| APR-DRG | 233 | 1 | -1.0062 | 1.0291 | 0.956 | 0.3282 |
| APR-DRG | 234 | 1 | 0.3694 | 0.7735 | 0.2281 | 0.6329 |
| APR-DRG | 241 | 1 | -1.6146 | 1.0136 | 2.5377 | 0.1112 |
| APR-DRG | 242 | 1 | -11.5573 | 143.1886 | 0.0065 | 0.9357 |
| APR-DRG | 243 | 1 | 0.115 | 0.4425 | 0.0676 | 0.7949 |
| APR-DRG | 244 | 1 | 1.2873 | 0.3072 | 17.5577 | <.0001 |
| APR-DRG | 0261 to 0263 | 1 | -1.7935 | 0.5879 | 9.3059 | 0.0023 |
| APR-DRG | 264 | 1 | 0.5677 | 0.4598 | 1.5242 | 0.217 |
| APR-DRG | 441 | 1 | -0.7962 | 0.0768 | 107.4927 | <.0001 |
| APR-DRG | 442 | 1 | -0.59 | 0.0671 | 77.377 | <.0001 |
| APR-DRG | 443 | 1 | 0.1311 | 0.0667 | 3.8662 | 0.0493 |
| APR-DRG | 444 | 1 | 2.6404 | 0.0636 | 1725.997 | <.0001 |
| APR-DRG | 452 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 453 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 454 | 0 | 0 | . | . | <.0001 |
| MDC | Other | 0 | 0 | . | . | <.0001 |

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| NOPOUB04 | | 1 | 0.0675 | 0.027 | 6.2592 | 0.0124 |

c-statistic=0.845

## Table 9C. Risk Adjustment Coefficients for IQI #17C Acute Stroke Mortality Rate - Stratum C

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -6.0385 | 0.07 | 7431.514 | <.0001 |
| SEX | Female | 1 | 0.0984 | 0.0182 | 29.1233 | <.0001 |
| AGE | 18 to 59 | 1 | -0.1952 | 0.0432 | 20.4167 | <.0001 |
| AGE | 60 to 84 | 1 | 0.0543 | 0.0375 | 2.0974 | 0.1475 |
| AGE | 85+ | 1 | 0.5513 | 0.039 | 199.3739 | <.0001 |
| APR-DRG | 211 | 1 | 3.3843 | 0.4269 | 62.8393 | <.0001 |
| APR-DRG | 212 | 1 | 3.8385 | 0.2715 | 199.9112 | <.0001 |
| APR-DRG | 213 | 1 | 4.0859 | 0.1917 | 454.2807 | <.0001 |
| APR-DRG | 214 | 1 | 5.5833 | 0.0868 | 4133.355 | <.0001 |
| APR-DRG | 221 | 1 | 4.2061 | 1.0714 | 15.4135 | <.0001 |
| APR-DRG | 222 | 1 | -6.5088 | 157.8333 | 0.0017 | 0.9671 |
| APR-DRG | 0223 to 0224 | 1 | 5.1978 | 0.307 | 286.7508 | <.0001 |
| APR-DRG | 0231 to 0232 | 1 | -6.6095 | 74.2997 | 0.0079 | 0.9291 |
| APR-DRG | 233 | 1 | -6.6259 | 99.3126 | 0.0045 | 0.9468 |
| APR-DRG | 234 | 1 | 3.0009 | 1.0286 | 8.512 | 0.0035 |
| APR-DRG | 241 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 242 | 1 | 1.0664 | 0.1528 | 48.7273 | <.0001 |
| APR-DRG | 243 | 1 | 3.2387 | 0.1041 | 967.6342 | <.0001 |
| APR-DRG | 244 | 1 | 5.2852 | 0.0801 | 4354.86 | <.0001 |
| APR-DRG | 0261 to 0263 | 1 | 0.9135 | 0.2967 | 9.4784 | 0.0021 |
| APR-DRG | 264 | 1 | 3.9725 | 0.2037 | 380.4174 | <.0001 |
| APR-DRG | 441 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 442 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 443 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 444 | 0 | 0 | . | . | <.0001 |
| APR-DRG | 452 | 1 | 1.727 | 0.0669 | 666.8779 | <.0001 |
| APR-DRG | 453 | 1 | 3.0483 | 0.066 | 2130.912 | <.0001 |
| APR-DRG | 454 | 1 | 5.2745 | 0.0648 | 6621.097 | <.0001 |
| MDC | Other | 1 | 3.4802 | 0.0831 | 1752.076 | <.0001 |

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| NOPOUB04 | | 1 | 0.0941 | 0.0227 | 17.1331 | <.0001 |

c-statistic=0.884

## Table 10. Risk Adjustment Coefficients for IQI #18 Gastrointestinal Hemorrhage Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -6.3501 | 0.1242 | 2613.506 | <.0001 |
| AGE | 18 to 59 | 1 | -0.1763 | 0.0504 | 12.253 | 0.0005 |
| AGE | 65+ | 1 | -0.0777 | 0.0446 | 3.0411 | 0.0812 |
| APR-DRG | 2201 | 1 | 0.4308 | 1.0081 | 0.1826 | 0.6692 |
| APR-DRG | 2202 | 1 | 2.1599 | 0.375 | 33.1724 | <.0001 |
| APR-DRG | 2203 | 1 | 3.2574 | 0.218 | 223.1669 | <.0001 |
| APR-DRG | 2204 | 1 | 5.3419 | 0.1347 | 1572.237 | <.0001 |
| APR-DRG | 2211 | 1 | 0.4172 | 0.7177 | 0.3379 | 0.561 |
| APR-DRG | 2212 | 1 | 1.6765 | 0.3743 | 20.0593 | <.0001 |
| APR-DRG | 2213 | 1 | 3.2873 | 0.1905 | 297.7086 | <.0001 |
| APR-DRG | 2214 | 1 | 5.1323 | 0.1417 | 1312.101 | <.0001 |
| APR-DRG | 2411 to 2413 | 1 | 1.3063 | 0.1253 | 108.7397 | <.0001 |
| APR-DRG | 2414 | 1 | 4.8385 | 0.1232 | 1541.83 | <.0001 |
| APR-DRG | 2421 to 2423 | 1 | 1.6759 | 0.1478 | 128.4893 | <.0001 |
| APR-DRG | 2424 | 1 | 5.025 | 0.1391 | 1304.567 | <.0001 |
| APR-DRG | 2441 to 2442 | 1 | -0.5256 | 0.1932 | 7.3996 | 0.0065 |
| APR-DRG | 2443 | 1 | 2.1492 | 0.1472 | 213.2187 | <.0001 |
| APR-DRG | 2444 | 1 | 4.6601 | 0.1402 | 1104.959 | <.0001 |
| APR-DRG | 2532 | 1 | 1.6898 | 0.1255 | 181.3286 | <.0001 |
| APR-DRG | 2533 | 1 | 3.1808 | 0.1212 | 688.5648 | <.0001 |
| APR-DRG | 2534 | 1 | 5.5094 | 0.121 | 2073.181 | <.0001 |
| APR-DRG | 2541 to 2543 | 1 | 1.826 | 0.1307 | 195.1244 | <.0001 |
| APR-DRG | 2544 | 1 | 5.2964 | 0.1335 | 1573.158 | <.0001 |
| MDC | Other | 1 | 3.1867 | 0.1262 | 637.4317 | <.0001 |
| TRNSFER | | 1 | 0.1987 | 0.0465 | 18.28 | <.0001 |

c-statistic=0.866

## Table 11. Risk Adjustment Coefficients for IQI #19 Hip Fracture Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -7.0414 | 0.1905 | 1366.605 | <.0001 |
| SEX | Female | 1 | -0.3495 | 0.0317 | 121.2893 | <.0001 |
| AGE | 70 to 84 | 1 | 0.3945 | 0.0905 | 19.0162 | <.0001 |
| AGE | 85+ | 1 | 0.8749 | 0.0891 | 96.3133 | <.0001 |
| APR-DRG | 3011 to 3012 | 1 | 1.0821 | 0.1874 | 33.346 | <.0001 |
| APR-DRG | 3013 | 1 | 2.9499 | 0.1787 | 272.5536 | <.0001 |
| APR-DRG | 3014 | 1 | 5.1898 | 0.1763 | 866.4998 | <.0001 |
| APR-DRG | 3082 | 1 | 1.0704 | 0.1857 | 33.2149 | <.0001 |
| APR-DRG | 3083 | 1 | 2.9843 | 0.1762 | 286.9098 | <.0001 |
| APR-DRG | 3084 | 1 | 5.3157 | 0.175 | 922.447 | <.0001 |
| APR-DRG | 3401 | 1 | 2.6689 | 0.2331 | 131.0504 | <.0001 |
| APR-DRG | 3402 | 1 | 3.3766 | 0.1864 | 328.0255 | <.0001 |
| APR-DRG | 3403 | 1 | 4.8353 | 0.1795 | 725.2191 | <.0001 |
| APR-DRG | 3404 | 1 | 6.6144 | 0.1833 | 1301.859 | <.0001 |
| MDC | 8 | 1 | 4.627 | 0.2123 | 474.9767 | <.0001 |
| MDC | 24 | 1 | 3.9877 | 0.1825 | 477.6779 | <.0001 |
| TRNSFER | | 1 | 0.1296 | 0.0627 | 4.2692 | 0.0388 |
| NOPOUB04 | | 1 | -0.0301 | 0.0421 | 0.51 | 0.4751 |

c-statistic=0.893

## Table 12. Risk Adjustment Coefficients for IQI #20 Pneumonia Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -6.5156 | 0.0831 | 6141.706 | <.0001 |
| SEX | Female | 1 | -0.082 | 0.0143 | 32.9009 | <.0001 |
| AGE | 18 to 24 | 1 | -1.4939 | 0.1322 | 127.6493 | <.0001 |
| AGE | 25 to 29 | 1 | -1.2043 | 0.132 | 83.2487 | <.0001 |
| AGE | 30 to 34 | 1 | -0.9221 | 0.1136 | 65.9299 | <.0001 |
| AGE | 35 to 39 | 1 | -0.7541 | 0.0997 | 57.24 | <.0001 |
| AGE | 40 to 44 | 1 | -0.6407 | 0.0784 | 66.7074 | <.0001 |
| AGE | 45 to 49 | 1 | -0.5889 | 0.0642 | 84.2659 | <.0001 |
| AGE | 50 to 54 | 1 | -0.4006 | 0.0509 | 61.8625 | <.0001 |
| AGE | 55 to 59 | 1 | -0.1661 | 0.0439 | 14.2896 | 0.0002 |
| AGE | 65 to 84 | 1 | 0.0433 | 0.0305 | 2.0158 | 0.1557 |
| AGE | 85+ | 1 | 0.5331 | 0.0315 | 286.4722 | <.0001 |
| APR-DRG | 1211 | 1 | 0.5435 | 0.7123 | 0.5822 | 0.4454 |
| APR-DRG | 1212 | 1 | 1.8988 | 0.5853 | 10.5241 | 0.0012 |
| APR-DRG | 1213 | 1 | 4.1791 | 0.1576 | 703.2838 | <.0001 |
| APR-DRG | 1214 | 1 | 5.6578 | 0.1291 | 1921.966 | <.0001 |
| APR-DRG | 1301 | 1 | 4.5126 | 0.2243 | 404.8289 | <.0001 |
| APR-DRG | 1302 | 1 | 4.7471 | 0.1206 | 1548.416 | <.0001 |
| APR-DRG | 1303 to 1304 | 1 | 5.9447 | 0.083 | 5133.53 | <.0001 |
| APR-DRG | 1371 | 1 | -0.5066 | 0.5063 | 1.0009 | 0.3171 |
| APR-DRG | 1372 | 1 | 1.6024 | 0.1214 | 174.2241 | <.0001 |
| APR-DRG | 1373 | 1 | 3.2215 | 0.088 | 1339.565 | <.0001 |
| APR-DRG | 1374 | 1 | 4.7481 | 0.086 | 3046.364 | <.0001 |
| APR-DRG | 1392 | 1 | 1.9187 | 0.0818 | 550.4575 | <.0001 |
| APR-DRG | 1393 | 1 | 3.3351 | 0.0802 | 1729.391 | <.0001 |
| APR-DRG | 1394 | 1 | 4.9962 | 0.0805 | 3853.776 | <.0001 |
| MDC | 4 | 1 | 4.1378 | 0.0866 | 2282.311 | <.0001 |
| MDC | 25 | 1 | 2.9232 | 0.1535 | 362.5769 | <.0001 |
| TRNSFER | | 1 | 0.4076 | 0.0361 | 127.7779 | <.0001 |

c-statistic=0.85

## Table 13. Risk Adjustment Coefficients for IQI #30 Percutaneous Coronary Intervention (PCI) Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -8.827 | 0.2602 | 1150.847 | <.0001 |
| SEX | Female | 1 | 0.0613 | 0.0246 | 6.225 | 0.0126 |
| AGE | 40 to 59 | 1 | -0.1614 | 0.0429 | 14.1236 | 0.0002 |
| AGE | 60 to 74 | 1 | 0.0383 | 0.0411 | 0.8685 | 0.3514 |
| AGE | 75 to 79 | 1 | 0.1975 | 0.047 | 17.6556 | <.0001 |
| AGE | 80 to 84 | 1 | 0.3781 | 0.0471 | 64.5727 | <.0001 |
| AGE | 85+ | 1 | 0.7307 | 0.0472 | 239.6612 | <.0001 |
| APR-DRG | 1653 to 1654 | 1 | 6.1477 | 0.2682 | 525.5101 | <.0001 |
| APR-DRG | 1741 | 1 | 1.6164 | 0.2842 | 32.335 | <.0001 |
| APR-DRG | 1742 | 1 | 3.1825 | 0.2651 | 144.1089 | <.0001 |
| APR-DRG | 1743 | 1 | 4.9465 | 0.2612 | 358.6125 | <.0001 |
| APR-DRG | 1744 | 1 | 7.4926 | 0.2588 | 838.0147 | <.0001 |
| APR-DRG | 1752 | 1 | 1.263 | 0.3063 | 17.0066 | <.0001 |
| APR-DRG | 1753 | 1 | 3.685 | 0.2704 | 185.6469 | <.0001 |
| APR-DRG | 1754 | 1 | 6.8047 | 0.2608 | 680.6617 | <.0001 |
| MDC | 4 | 1 | 6.1377 | 0.2689 | 520.8239 | <.0001 |
| MDC | 5 | 1 | 6.5879 | 0.2608 | 637.9765 | <.0001 |
| MDC | 8 | 1 | 5.9549 | 0.286 | 433.6339 | <.0001 |
| MDC | 18 | 1 | 6.8518 | 0.2672 | 657.5428 | <.0001 |
| MDC | Other | 1 | 5.8012 | 0.2654 | 477.8759 | <.0001 |
| TRNSFER | | 1 | 0.086 | 0.0305 | 7.9307 | 0.0049 |
| NOPOUB04 | | 1 | 0.0678 | 0.0327 | 4.3004 | 0.0381 |

c-statistic=0.943

## Table 14. Risk Adjustment Coefficients for IQI #31 Carotid Endarterectomy Mortality Rate

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -10.0516 | 0.73 | 189.5921 | <.0001 |
| AGE | 18 to 59 | 1 | -0.4062 | 0.3004 | 1.8293 | 0.1762 |
| AGE | 65+ | 1 | 0.1889 | 0.209 | 0.8175 | 0.3659 |
| APR-DRG | 0242 to 0244 | 1 | 5.0359 | 0.711 | 50.1654 | <.0001 |
| MDC | 1 | 1 | 7.6868 | 0.7695 | 99.7818 | <.0001 |
| MDC | 5 | 1 | 6.6761 | 0.7147 | 87.266 | <.0001 |
| MDC | Other | 1 | 5.6021 | 0.7827 | 51.2246 | <.0001 |

c-statistic=0.851

## Table 15. Risk Adjustment Coefficients for IQI #32 Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases

| PARAMETER | LABEL | DF | ESTIMATE | STANDARD ERROR | WALD CHI-SQUARE | PR > CHI-SQUARE |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -7.1968 | 0.1397 | 2654.556 | <.0001 |
| AGE | 18 to 39 | 1 | -0.3975 | 0.1006 | 15.6217 | <.0001 |
| AGE | 40 to 44 | 1 | -0.2032 | 0.0788 | 6.6565 | 0.0099 |
| AGE | 45 to 49 | 1 | -0.2924 | 0.0623 | 22.0121 | <.0001 |
| AGE | 50 to 54 | 1 | -0.2352 | 0.049 | 23.033 | <.0001 |
| AGE | 55 to 60 | 1 | -0.0926 | 0.0426 | 4.7393 | 0.0295 |
| AGE | 65 to 84 | 1 | 0.0602 | 0.0302 | 3.9858 | 0.0459 |
| AGE | 85+ | 1 | 0.3322 | 0.0324 | 105.3411 | <.0001 |
| APR-DRG | 1611 to 1614 | 1 | 5.296 | 0.1485 | 1271.13 | <.0001 |
| APR-DRG | 1621 to 1622 | 1 | 2.1416 | 0.7226 | 8.7825 | 0.003 |
| APR-DRG | 1623 | 1 | 3.7126 | 0.2823 | 172.9528 | <.0001 |
| APR-DRG | 1624 | 1 | 5.5466 | 0.1738 | 1018.559 | <.0001 |
| APR-DRG | 1651 to 1652 | 1 | 1.0961 | 0.2539 | 18.6416 | <.0001 |
| APR-DRG | 1653 | 1 | 2.9801 | 0.1665 | 320.1677 | <.0001 |
| APR-DRG | 1654 | 1 | 5.1921 | 0.1454 | 1275.248 | <.0001 |
| APR-DRG | 1731 to 1734 | 1 | 5.1229 | 0.1835 | 779.6036 | <.0001 |
| APR-DRG | 1742 | 1 | 1.7266 | 0.1522 | 128.7656 | <.0001 |
| APR-DRG | 1743 | 1 | 3.5527 | 0.1438 | 609.9623 | <.0001 |
| APR-DRG | 1744 | 1 | 6.0149 | 0.1387 | 1879.342 | <.0001 |
| APR-DRG | 1901 | 1 | 1.6504 | 0.1796 | 84.4042 | <.0001 |
| APR-DRG | 1902 | 1 | 3.1097 | 0.1442 | 465.2259 | <.0001 |
| APR-DRG | 1903 | 1 | 4.438 | 0.1388 | 1022.789 | <.0001 |
| APR-DRG | 1904 | 1 | 6.5275 | 0.1385 | 2221.481 | <.0001 |
| MDC | 5 | 1 | 4.9847 | 0.1426 | 1221.691 | <.0001 |

c-statistic=0.882

## Table 16. Risk Adjustment Coefficients for IQI #26 Coronary Artery Bypass Graft (CABG) Rate

| PARAMETER | LABEL | DF | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -5.549674705 | 0.006260168 | 785892.2791 | <.0001 |
| SEX | Female | 1 | -1.132626678 | 0.01215274 | 8686.107097 | <.0001 |
| AGE | Male, Age 40-44 | 1 | -2.785610585 | 0.020928353 | 17716.20497 | <.0001 |
| AGE | Male, Age 45-49 | 1 | -1.949461339 | 0.014416869 | 18284.67902 | <.0001 |
| AGE | Male, Age 50-54 | 1 | -1.313172899 | 0.01121046 | 13721.35379 | <.0001 |
| AGE | Male, Age 55-59 | 1 | -0.784227019 | 0.009763902 | 6451.145023 | <.0001 |
| AGE | Male, Age 60-64 | 1 | -0.393141044 | 0.009168736 | 1838.560226 | <.0001 |
| AGE | Male, Age 70-74 | 1 | 0.174769701 | 0.009305385 | 352.7472229 | <.0001 |
| AGE | Male, Age 75-79 | 1 | 0.275862685 | 0.009954967 | 767.9028816 | <.0001 |
| AGE | Male, Age 80-84 | 1 | 0.103624242 | 0.011767414 | 77.54622959 | <.0001 |
| AGE | Male, Age 85+ | 1 | -0.794663136 | 0.01816024 | 1914.798097 | <.0001 |
| AGE | Female, Age 40-44 | 1 | 0.067719397 | 0.041117978 | 2.712455826 | 0.0996 |
| AGE | Female, Age 45-49 | 1 | -0.056035976 | 0.029283092 | 3.661845657 | 0.0557 |
| AGE | Female, Age 50-54 | 1 | -0.149389316 | 0.023108399 | 41.79259588 | <.0001 |
| AGE | Female, Age 55-59 | 1 | -0.213355275 | 0.020154567 | 112.0623747 | <.0001 |
| AGE | Female, Age 60-64 | 1 | -0.09840671 | 0.018259351 | 29.04549219 | <.0001 |
| AGE | Female, Age 70-74 | 1 | 0.059229567 | 0.01766857 | 11.23761984 | 0.0008 |
| AGE | Female, Age 75-79 | 1 | 0.143427357 | 0.018253092 | 61.74347831 | <.0001 |
| AGE | Female, Age 80-84 | 1 | 0.154899798 | 0.020680416 | 56.10261978 | <.0001 |
| AGE | Female, Age 85+ | 1 | -0.135403413 | 0.030911334 | 19.18773599 | <.0001 |

c-statistic=0.582

## Table 17. Risk Adjustment Coefficients for IQI #27 Percutaneous Coronary Intervention (PCI) Rate

| PARAMETER | LABEL | DF | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -4.897890874 | 0.004535197 | 1166342.142 | <.0001 |
| SEX | Female | 1 | -0.815760192 | 0.007869083 | 10746.74085 | <.0001 |
| AGE | Male, Age 40-44 | 1 | -1.821298271 | 0.009997666 | 33186.76639 | <.0001 |
| AGE | Male, Age 45-49 | 1 | -1.186410024 | 0.007854115 | 22817.87082 | <.0001 |
| AGE | Male, Age 50-54 | 1 | -0.753217286 | 0.006814673 | 12216.60584 | <.0001 |
| AGE | Male, Age 55-59 | 1 | -0.445298764 | 0.006445173 | 4773.465265 | <.0001 |
| AGE | Male, Age 60-64 | 1 | -0.229863028 | 0.006368818 | 1302.62845 | <.0001 |
| AGE | Male, Age 70-74 | 1 | 0.153628401 | 0.006782458 | 513.0608138 | <.0001 |
| AGE | Male, Age 75-79 | 1 | 0.230336333 | 0.007315832 | 991.2825677 | <.0001 |
| AGE | Male, Age 80-84 | 1 | 0.227104106 | 0.008170487 | 772.5989183 | <.0001 |
| AGE | Male, Age 85+ | 1 | -0.051338917 | 0.009661797 | 28.23433649 | <.0001 |
| AGE | Female, Age 40-44 | 1 | -0.268899361 | 0.019321319 | 193.6894601 | <.0001 |
| AGE | Female, Age 45-49 | 1 | -0.301647007 | 0.015020714 | 403.2894805 | <.0001 |
| AGE | Female, Age 50-54 | 1 | -0.288657942 | 0.012753558 | 512.2763715 | <.0001 |
| AGE | Female, Age 55-59 | 1 | -0.269783152 | 0.011871921 | 516.4017258 | <.0001 |
| AGE | Female, Age 60-64 | 1 | -0.149762599 | 0.011395603 | 172.7158344 | <.0001 |
| AGE | Female, Age 70-74 | 1 | 0.076987455 | 0.01149707 | 44.84000146 | <.0001 |
| AGE | Female, Age 75-79 | 1 | 0.197051284 | 0.011935543 | 272.567563 | <.0001 |
| AGE | Female, Age 80-84 | 1 | 0.26256552 | 0.012765599 | 423.0512707 | <.0001 |
| AGE | Female, Age 85+ | 1 | 0.165342422 | 0.014291998 | 133.8390083 | <.0001 |

c-statistic=0.529

## Table 18. Risk Adjustment Coefficients for IQI #28 Hysterectomy Rate

| PARAMETER | LABEL | DF | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -6.557700318 | 0.009788787 | 448792.3186 | <.0001 |
| AGE | Male, Age 18-24 | 1 | -3.132458327 | 0.035158565 | 7937.949156 | <.0001 |
| AGE | Male, Age 25-29 | 1 | -1.022527571 | 0.016784306 | 3711.447349 | <.0001 |
| AGE | Male, Age 30-34 | 1 | 0.049996384 | 0.012663867 | 15.58635392 | <.0001 |
| AGE | Male, Age 35-39 | 1 | 0.799306236 | 0.011333135 | 4974.235204 | <.0001 |
| AGE | Male, Age 40-44 | 1 | 1.281018702 | 0.010701809 | 14328.36312 | <.0001 |
| AGE | Male, Age 45-49 | 1 | 1.303531737 | 0.010651769 | 14976.13376 | <.0001 |
| AGE | Male, Age 50-54 | 1 | 0.715583933 | 0.011222954 | 4065.432599 | <.0001 |
| AGE | Male, Age 55-59 | 1 | 0.039915395 | 0.012619711 | 10.00419215 | 0.0016 |
| AGE | Male, Age 60-64 | 1 | -0.091535653 | 0.0133886 | 46.74231702 | <.0001 |
| AGE | Male, Age 70-74 | 1 | -0.142139462 | 0.015693656 | 82.03158361 | <.0001 |
| AGE | Male, Age 75-79 | 1 | -0.411090643 | 0.018699541 | 483.2961243 | <.0001 |
| AGE | Male, Age 80-84 | 1 | -0.975886364 | 0.02535467 | 1481.434932 | <.0001 |
| AGE | Male, Age 85+ | 1 | -2.009128731 | 0.037925669 | 2806.396528 | <.0001 |

c-statistic=0.615

## Table 19. Risk Adjustment Coefficients for IQI #29 Laminectomy or Spinal Fusion Rate

| PARAMETER | LABEL | DF | Estimate | Standard Error | Wald Chi-Square | Pr > Chi-Square |
|---|---|---|---|---|---|---|
| INTERCEPT | | 1 | -5.220023161 | 0.005316913 | 963886.3685 | <.0001 |
| SEX | Female | 1 | -0.039054559 | 0.007390364 | 27.92619549 | <.0001 |
| AGE | Male, Age 18-24 | 1 | -2.740511501 | 0.01488159 | 33912.87487 | <.0001 |
| AGE | Male, Age 25-29 | 1 | -2.3128539 | 0.01417095 | 26637.80869 | <.0001 |
| AGE | Male, Age 30-34 | 1 | -1.67549945 | 0.0110735 | 22893.84436 | <.0001 |
| AGE | Male, Age 35-39 | 1 | -1.253659656 | 0.009755543 | 16514.1572 | <.0001 |
| AGE | Male, Age 40-44 | 1 | -0.959490786 | 0.008638641 | 12336.465 | <.0001 |
| AGE | Male, Age 45-49 | 1 | -0.724343791 | 0.008002723 | 8192.452342 | <.0001 |
| AGE | Male, Age 50-54 | 1 | -0.544327777 | 0.007564504 | 5177.976127 | <.0001 |
| AGE | Male, Age 55-59 | 1 | -0.389164933 | 0.007454661 | 2725.283122 | <.0001 |
| AGE | Male, Age 60-64 | 1 | -0.291456356 | 0.007583218 | 1477.202147 | <.0001 |
| AGE | Male, Age 70-74 | 1 | 0.110590801 | 0.008044891 | 188.9721117 | <.0001 |
| AGE | Male, Age 75-79 | 1 | 0.084639416 | 0.008973025 | 88.9749182 | <.0001 |
| AGE | Male, Age 80-84 | 1 | -0.17480312 | 0.011074153 | 249.1594202 | <.0001 |
| AGE | Male, Age 85+ | 1 | -0.891685329 | 0.016086328 | 3072.623856 | <.0001 |
| AGE | Female, Age 18-24 | 1 | -0.128074069 | 0.022066787 | 33.68559327 | <.0001 |
| AGE | Female, Age 25-29 | 1 | -0.049338513 | 0.020514301 | 5.784404762 | 0.0162 |
| AGE | Female, Age 30-34 | 1 | -0.025466983 | 0.015822045 | 2.590775456 | 0.1075 |
| AGE | Female, Age 35-39 | 1 | 0.002179636 | 0.013801948 | 0.024939459 | 0.8745 |
| AGE | Female, Age 40-44 | 1 | 0.048922802 | 0.012099283 | 16.3494573 | <.0001 |
| AGE | Female, Age 45-49 | 1 | 0.075816862 | 0.011141308 | 46.30834466 | <.0001 |
| AGE | Female, Age 50-54 | 1 | 0.030680631 | 0.010568611 | 8.427383334 | 0.0037 |
| AGE | Female, Age 55-59 | 1 | -0.047981572 | 0.010484312 | 20.94445461 | <.0001 |
| AGE | Female, Age 60-64 | 1 | -0.031262949 | 0.010615411 | 8.67333707 | 0.0032 |
| AGE | Female, Age 70-74 | 1 | -0.046860819 | 0.011170527 | 17.59836895 | <.0001 |

| | | | | | | |
|---|---|---|---|---|---|---|
| AGE | Female, Age 75-79 | 1 | -0.111444379 | 0.012426847 | 80.42562861 | <.0001 |
| AGE | Female, Age 80-84 | 1 | -0.259168115 | 0.015372381 | 284.2371682 | <.0001 |
| AGE | Female, Age 85+ | 1 | -0.52669943 | 0.022102028 | 567.8863679 | <.0001 |

c-statistic=0.548

## Composite Weights

Under the Hospital Inpatient Quality Reporting (IQR) program, the Centers for Medicare & Medicaid Services (CMS) adopted IQI developed by AHRQ for use in "Hospital Compare", a comparative public report of hospital performance. Two of the adopted indicators are composite measures: IQI #90 and IQI #91.

One of these composite measures - IQI #91 – was ultimately endorsed by NQF in 2009 and therefore appears in the Hospital Compare report. The other composite measure – IQI #90 – was not endorsed because of the relatively small number of hospitals that perform most of these procedures, the heterogeneity in the relative frequency of procedures performed at these hospitals, and the elective nature of the procedures. In turn, IQI #90 has since been retired from IQR.

To utilize the NQF endorsed composite, users must use these "NQF Denominator Weights" when using the AHRQ QI software to compute the composite measure using their own data. Table 20 provides the NQF weights for the composite measure. The sum of the weights for the indicators included in the same composite always equals one.

### Table 20. NQF Denominator Weights for IQI #90

| INDICATOR | WEIGHT |
|---|---|
| IQI #08 Esophageal Resection Mortality Rate | 0.003674072 |
| IQI #09 Pancreatic Resection Mortality Rate | 0.013290 |
| IQI #11 Abdominal Aortic Aneurism (AAA) Repair Mortality Rate | 0.030218 |
| IQI #12 Coronary Artery Bypass Graft (CABG) Mortality Rate | 0.15047 |
| IQI #13 Craniotomy Mortality Rate | 0.10921 |
| IQI #24 Incidental Appendectomy in the Elderly Rate | 0.23151 |
| IQI #30 Percutaneous Coronary Intervention (PCI) Mortality Rate | 0.38387 |
| IQI #31 Carotid Endarterectomy Mortality Rate | 0.067745 |
| SUM | 1.0000 |

### Table 21. NQF Denominator Weights for IQI #91

| INDICATOR | WEIGHT |
|---|---|
| IQI #15 Acute Myocardial Infarction (AMI) Mortality Rate | 0.1537 |
| IQI #16 Heart Failure Mortality Rate | 0.25529 |
| IQI #17 Acute Stroke Mortality Rate | 0.15452 |
| IQI #18 Gastrointestinal Hemorrhage Mortality Rate | 0.13872 |
| IQI #19 Hip Fracture Mortality Rate | 0.069469 |
| IQI #20 Pneumonia Mortality Rate | 0.22829 |

| | |
|---|---|
| SUM | 1.0000 |

## 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 |

## Table A.2. Major Diagnostic Categories (MDC)

| MDC | DESCRIPTION |
|---|---|
| 1 | DISEASES & DISORDERS OF THE NERVOUS SYSTEM |
| 2 | DISEASES & DISORDERS OF THE EYE |
| 3 | DISEASES & DISORDERS OF THE EAR, NOSE, MOUTH & THROAT |
| 4 | DISEASES & DISORDERS OF THE RESPIRATORY SYSTEM |
| 5 | DISEASES & DISORDERS OF THE CIRCULATORY SYSTEM |
| 6 | DISEASES & DISORDERS OF THE DIGESTIVE SYSTEM |
| 7 | DISEASES & DISORDERS OF THE HEPATOBILIARY SYSTEM & PANCREAS |
| 8 | DISEASES & DISORDERS OF THE MUSCULOSKELETAL SYSTEM & CONN TISSUE |
| 9 | DISEASES & DISORDERS OF THE SKIN, SUBCUTANEOUS TISSUE & BREAST |
| 10 | ENDOCRINE, NUTRITIONAL & METABOLIC DISEASES & DISORDERS |
| 11 | DISEASES & DISORDERS OF THE KIDNEY & URINARY TRACT |
| 12 | DISEASES & DISORDERS OF THE MALE REPRODUCTIVE SYSTEM |
| 13 | DISEASES & DISORDERS OF THE FEMALE REPRODUCTIVE SYSTEM |
| 14 | PREGNANCY, CHILDBIRTH & THE PUERPERIUM |
| 15 | NEWBORNS & OTHER NEONATES WITH CONDTN ORIG IN PERINATAL PERIOD |
| 16 | DISEASES & DISORDERS OF BLOOD, BLOOD FORMING ORGANS, IMMUNOLOG DISORD |
| 17 | MYELOPROLIFERATIVE DISEASES & DISORDERS, POORLY DIFFERENTIATED NEOPLASM |
| 18 | INFECTIOUS & PARASITIC DISEASES, SYSTEMIC OR UNSPECIFIED SITES |
| 19 | MENTAL DISEASES & DISORDERS |
| 20 | ALCOHOL/DRUG USE & ALCOHOL/DRUG INDUCED ORGANIC MENTAL DISORDERS |
| 21 | INJURIES, POISONINGS & TOXIC EFFECTS OF DRUGS |
| 22 | BURNS |
| 23 | FACTORS INFLUENCING HLTH STAT & OTHR CONTACTS WITH HLTH SERVCS |
| 24 | MULTIPLE SIGNIFICANT TRAUMA |
| 25 | HUMAN IMMUNODEFICIENCY VIRUS INFECTIONS |
| *OTHER* | *REPRESENTS ALL OTHER MDCs NOT EXPLICITLY INCLUDED AS A PARAMETER IN THE QI RISK ADJUSTMENT MODEL* |

## Table A.3. Categorical Variables Definitions: Transfer, Point of Origin, Ruptured

| CATEGORY | DESCRIPTION | DEFINITION |
|---|---|---|
| TRNSFER | Transfer-in | If admission type (ATYPE) not equal to '4' (newborn) and<br>- admission source (ASOURCE) equal to '2' (Another Hospital) or<br>- point of origin (POINTOFORIGINUB04) equal to '4' (Transfer from a Hospital), then TRNSFER=1 |
| NOPOUB04 | UB-04 Point-of-Origin Data Not Available | If admission source (ASOURCE) is not equal to missing and point of origin (POINTOFORIGINUB04) is equal to missing, then NOPOUB04=1 |
| NOPRDAY | Procedure Days Data Not Available | If PRDAY1 and PRDAY2 and . . . PRDAYn is equal to missing, where n is the number of Procedure Codes reported in the user's data – then NOPRDAY = 1 |
| RUPTURED | AAA Repair | If ICD-9-CM diagnosis code 441.3 Abdominal aneurysm, ruptured is present in the record, then RUPTURED=1 |