



INPATIENT QUALITY INDICATORS (IQI) LOG OF ICD-9-CM, ICD-10-CM/PC, AND DRG CODING UPDATES AND REVISIONS TO IQI DOCUMENTATION AND SOFTWARE Through Version 7.0

Prepared for:

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1.0 Log of ICD-09 CM, ICD-10-CM/PCS and MS-DRG Coding Updates and Revisions to IQI Specifications Documentation and Software

The following table summarizes the revisions made to the Inpatient Quality Indicators (IQI) software, software documentation and the technical specification documents in v6.0 ICD-09-CM and ICD-10-CM/PCS version. It also reflects changes to indicator specifications based on updates to ICD-09-CM and ICD-10-CM/PCS codes through Fiscal Year 2016 (effective October 1, 2015) and incorporates coding updates that were implemented in both versions of the Inpatient Quality Indicators (IQI) software (both SAS and Windows).

The table lists the version and revision number, the date the revision was made, the component(s) affected by the change and a short summary of the changes that were made. The nature of the change is categorized as:

- 1) **Fiscal year (FY) coding change:** occurs because of changes to the most recent fiscal year codes dictated by the Centers for Disease Control and Prevention (CDC) National Center for Health Statistics (NCHS) and Centers for Medicare & Medicaid Services (CMS)
- 2) **Specification/ Calculation change:** may impact the measure result that is something other than the most recent fiscal year coding change
- 3) **Software/documentation change:** alteration to the software code to calculate the measure as specified, or to the documentation to clarify the measure intent or functionality.

For convenience and ease of use, the changes are listed in reverse chronological order with the most recent changes appearing first in the table. Please note that changes prior to version 4.4 are not classified according to the currently defined types of changes. In addition, each type of change has varied shading to enhance readability.

All changes noted below have been incorporated into the software programming code, software documentation and the IQI technical specifications. With this software update, the IQI software now incorporates ICD-9-CM, ICD-10 CM/PC, and DRG/MS-DRG codes valid from October 1, 1994 through September 30, 2016.

The transition from ICD-9-CM to ICD-10 CM/PCS represents substantial differences across the two code sets. Specifications have been carefully reviewed to achieve as much consistency as possible; however, differences are expected to exist between the ICD-9 v5.0, the previous version of the AHRQ QI measures, and the ICD-10-CM release of v6.0. A detailed explanation of the process of conversion is detailed in http://www.qualityindicators.ahrq.gov/Downloads/Resources/Publications/2013/C.14.10.D001_REVISED.pdf

Note: the change log for v6.0 (ICD-10) reflects the changes from v5.0 alpha version of ICD-10 software and not the changes from v5.0 ICD-09 version.

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Inpatient Quality Indicators (IQI), Log of ICD-9-CM and DRG Coding Updates and Revisions to IQI Documentation and Software

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--|-------------------|-----------|-------------------------------|--|
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 02 | Specification/ Calculation | Description: Update codes for acute pancreatitis Rationale for the change: Annual coding update. |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 04 | Specification/ Calculation | Description: Revise ICD-10 definition of AAA open repair to accommodate new coding guidelines. Rationale for the change: Relevant guidance is "if the aneurysm is repaired by putting a synthetic graft, stent, or other device in the lumen of the artery, the root operation is "Restriction," and the device is "Intraluminal device." The objective of the abdominal aortic aneurysm repair is to restrict the lumen of the vessel." Change required to accurately capture open AAA repairs.. |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 05 | Specification/ Calculation | Description: Update codes for coronary artery bypass procedures to existing denominator Rationale for the change: Annual coding update. |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 06 | Specification/ Calculation | Description: Update codes for PCI procedures to existing denominator Rationale for the change: Annual Coding Update |

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|--|-------------------|-----------|-------------------------------|--|
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 07 | Specification/ Calculation | <p>Description: Update procedure codes for carotid endarterectomy</p> <p>Rationale for the change: Annual coding update</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 08 | Specification/ Calculation | <p>Description: Update diagnosis codes for gastrointestinal-related cancer</p> <p>Rationale for the change: Annual coding update</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 09 | Specification/ Calculation | <p>Description: Update codes for acute pancreatitis</p> <p>Rationale for the change: Annual coding update</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 11 | Specification/ Calculation | <p>Description: Revise ICD-10 definition of AAA open repair to accommodate new coding guidelines</p> <p>Rationale for the change: Relevant guidance is "if the aneurysm is repaired by putting a synthetic graft, stent, or other device in the lumen of the artery, the root operation is "Bypassing" and the device is "Endovascular device." The definition of "Bypassing" is "The placement of a synthetic or natural graft, stent, or other device in the lumen of the artery to bypass a stenosis or occlusion of the artery."</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 12 | Specification/ Calculation | <p>Description: Update codes for coronary bypass graft procedures for the existing denominator.</p> <p>Rationale for the change: Annual coding update</p> |

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|--|-------------------|-----------|-------------------------------|---|
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 13 | Specification/ Calculation | <p>Description: Update codes for head trauma for the existing denominator exclusion.</p> <p>Rationale for the change: Annual coding update</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 14 | Specification/ Calculation | <p>Description: Update denominator inclusion osteoarthritis codes</p> <p>Rationale for the change: Annual coding update</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 15 | Specification/ Calculation | <p>Description: Added a denominator exclusion (Exclusion 2) for patients in hospice care at admission for the ICD-10 version of IQI 15.</p> <p>Rationale for the change: Patients in hospice care at admission who have an AMI may not receive aggressive and invasive interventions because of end-of-life care. In addition, it may be difficult to discern which patients die from an AMI rather than as a natural consequence of their age and/or underlying condition.</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 16 | Specification/ Calculation | <p>Description: Added a denominator exclusion for patients with any procedure code for heart transplant.</p> <p>Rationale for the change: Patients with heart failure undergoing heart transplants are clinically distinct from those undergoing no or other procedures and have very high risk of mortality</p> |

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|--|-------------------|-----------|-------------------------------|---|
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 17 | Specification/ Calculation | <p>Description: Added an exclusion (Exclusion 2) for patients in hospice care at admission for the ICD-10 version of IQI 17.</p> <p>Rationale for the change: Patients in hospice care at admission who have an acute stroke may not receive aggressive life-saving interventions because of end-of-life care. In addition, it may be difficult to discern which patients die from acute stroke-related complications rather than as a natural consequence of their age and/or underlying condition.</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 17 | Specification/ Calculation | <p>Description: Updated codes for stroke for existing denominator (specifically SAH and ischemic stroke)</p> <p>Rationale for the change: Annual coding update</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 18 | Specification/ Calculation | <p>Description: Added an exclusion (Exclusion 2) for patients in hospice care at admission for the ICD-10 version of IQI 18.</p> <p>Rationale for the change: Patients in hospice care at admission who have a gastrointestinal hemorrhage may not receive aggressive life-saving interventions because of end-of-life care. In addition, it may be difficult to discern which patients die from gastrointestinal hemorrhage-related complications rather than as a natural consequence of their age and/or underlying condition.</p> |

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|--|-------------------|-----------|-------------------------------|---|
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 18 | Specification/ Calculation | <p>Description: Added a denominator exclusion for patients with any procedure code for liver transplant.</p> <p>Rationale for the change: Patients with GI hemorrhage undergoing liver transplants are clinically distinct from those undergoing no or other procedures and have very high risk of mortality</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 19 | Specification/ Calculation | <p>Description: Added an exclusion (Exclusion 3) for patients in hospice care at admission for the ICD-10 version of IQI 19.</p> <p>Rationale for the change: Patients in hospice care at admission who have a complication as a result of a hip fracture may not receive aggressive life-saving interventions because of end-of-life care. In addition, it may be difficult to discern which patients die from hip fracture-related complications rather than as a natural consequence of their age and/or underlying condition.</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 19 | Specification/ Calculation | <p>Description: Updated codes for periprosthetic fracture</p> <p>Rationale for the change: Annual coding update</p> |

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|--|-------------------|-----------|-------------------------------|---|
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 20 | Specification/ Calculation | <p>Description: Added an exclusion (Exclusion 2) for patients in hospice care at admission for the ICD-10 version of IQI 20.</p> <p>Rationale for the change: Patients in hospice care at admission who have pneumonia may not receive aggressive life-saving interventions because of end-of-life care. In addition, it may be difficult to discern which patients die from pneumonia and pneumonia-related complications rather than as a natural consequence of their age and/or underlying condition.</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 22 | Specification/ Calculation | <p>Description: Update codes for previous Cesarean delivery for denominator inclusion.</p> <p>Rationale for the change: Annual coding update</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 30 | Specification/ Calculation | <p>Description: Updated codes for PCI procedures for existing denominator</p> <p>Rationale for the change: Annual coding update</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 31 | Specification/ Calculation | <p>Description: Update procedure codes for carotid endarterectomy</p> <p>Rationale for the change: Annual coding update</p> |

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|--|-------------------|-----------|-------------------------------|--|
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 32 | Specification/ Calculation | <p>Description: Added an exclusion (Exclusion 4) for patients in hospice care at admission for the ICD-10 version of IQI 32.</p> <p>Rationale for the change: Patients in hospice care at admission who have an AMI may not receive aggressive and invasive interventions because of end-of-life care. In addition, it may be difficult to discern which patients die from an AMI rather than as a natural consequence of their age and/or underlying condition.</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 33 | Specification/ Calculation | <p>Description: Updated codes for previous Cesarean delivery for denominator inclusion.</p> <p>Rationale for the change: Annual coding update</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 34 | Specification/ Calculation | <p>Description: Update codes for previous Cesarean delivery for denominator inclusion.</p> <p>Rationale for the change: Annual coding update</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 23 | Specification/ Calculation | <p>Changes: Remove from software and documentation</p> <p>Rationale for the change: IQI 23 was retired in Version 7.0.</p> |

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|--|-------------------|-----------|-------------------------------|--|
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 24 | Specification/ Calculation | <p>Description: Remove from software and documentation</p> <p>Rationale for the change: IQI 24 was retired in Version 7.0</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 25 | Specification/ Calculation | <p>Description: Remove from software and documentation</p> <p>Rationale for the change: IQI 25 was retired in Version 7.0</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 26 | Specification/ Calculation | <p>Description: Remove from software and documentation.</p> <p>Rationale for the change: IQI 26 was retired in Version 7.0</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 27 | Specification/ Calculation | <p>Description: Remove from software and documentation.</p> <p>Rationale for the change: IQI 27 was retired in Version 7.0</p> |

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|--|-------------------|-------------|-------------------------------|--|
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 28 | Specification/ Calculation | <p>Description: Remove from software and documentation</p> <p>Rationale for the change: IQI 28 was retired in Version 7.0</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | IQI 29 | Specification/ Calculation | <p>Description: Remove from software and documentation</p> <p>Rationale for the change: IQI 29 was retired in Version 7.0.</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | All modules | Specification/ Calculation | <p>Description: Remove risk adjustment variables and associated code</p> <p>Rationale for the change: Risk adjustment variables and associated code were removed from all modules, as risk adjustment is not presently available in the ICD10 v7.00 software.</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | All modules | Specification/ Calculation | <p>Description: Changed structure for one MDRGs: acute myocardial infarction.</p> <p>Rationale for the change: Root MS-DRGs are structured by mortality and as mortality may be related to the numerator event, this MS-DRGs was combined with the corresponding MS-DRG for patients discharged alive.</p> |

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|--|-------------------|-----------|-------------------------------|--|
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | All | Specification/ Calculation | <p>Description: Updated header and title sections, addressed typographical errors. Changed Program names.</p> <p>Rationale: Software clean-up.</p> |
| v7.0 (ICD-10) for SAS QI & WinQI | September 2017 | All | Specification/ Calculation | <p>Description: New risk models were created: Risk variables were reselected from a full set of candidate measures. New age-sex categories were created; Derived variable collapsing rules; Refined rules for including "transfer-in" for each model.</p> |
| v6.0 (ICD-9) | March 2017 | IQI 18 | Specification/ Calculation | <p>Description: Added a denominator exclusion for patients with any procedure code for liver transplant.</p> <p>Rationale: Patients with GI hemorrhage undergoing liver transplants are clinically distinct from those undergoing no or other procedures and have very high risk of mortality.</p> |
| v6.0 (ICD-9) | March 2017 | IQI 16 | Specification/ Calculation | <p>Description: Added a denominator exclusion for patients with any procedure code for heart transplant.</p> <p>Rationale: Patients with heart failure undergoing heart transplants are clinically distinct from those undergoing no or other procedures and have very high risk of mortality</p> |

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|--------------------------------|---------------|---|-------------------------------|--|
| v6.0 (ICD-9) | March 2017 | IQI 09A, IQI 09B, IQI 11A, IQI 11B, IQI 11C, IQI 11D, IQI 17A, IQI 17B, and IQI 17C | Specification/ Calculation | <p>Description: Risk models in stratified measures are now estimated for each strata, which are then all applied at the discharge level to create an overall risk-adjusted rate. The overall risk model was eliminated.</p> <p>Rationale: Risk models are periodically specified to increase performance and stability of the models.</p> |
| v6.0 (ICD-9) | March 2017 | All | Specification/ Calculation | <p>Description: Applied reference population for IQI area measures that excludes discharges for patients residing outside the 44 states in the reference population.</p> <p>Rationale: Crossing state borders to seek care is common. The QI software will calculate a rate for any county for which at least one discharge occurs. In the case of counties that are not included in the references population, a single discharge will result in the calculation of a "rate" even though most hospital admissions are not observed (e.g. they occur in the home State).</p> |
| v6.0 (ICD-10) | July 2016 | IQI 14, IQI 19 | Specification/ Calculation | <p>Description: Added 7th character "A" to six codes in MTHIPFD. These now read: M80051A, M80052A, M80059A, M80851A, M80852A, and M80859A.</p> <p>Rationale for the change: The final character was unintentionally omitted from these codes.</p> |
| v6.0 (ICD-10) | July 2016 | IQI 17 | Specification/ Calculation | <p>Description: Fixed logic in software to implement overall and stratified stroke rates.</p> <p>Rationale for the change: Incorrect logic miscalculated stroke mortality rate.</p> |

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|--------------------------------|------------|--|-------------------------------|---|
| v6.0 (ICD-10) | July 2016 | IQI 21, IQI 22, IQI 33, IQI 34 | Specification/ Calculation | <p>Description: Change denominator in software to a ICD-10 based definition consisting of a diagnosis code for birth and a procedure code for mode of delivery</p> <p>Rationale for the change: Under ICD-10 procedures performed to assist delivery will result in a patient being moved into a surgical DRG, removing these cases from the former PSI denominator. As a result, it is necessary to define the denominator using ICD-10 codes.</p> |
| V5.0 | March 2015 | Pancreatic Resection Volume (IQI 02) | Specification/ Calculation | Logic was modified to ensure that strata are mutually exclusive. |
| V5.0 | March 2015 | Pancreatic Resection Volume (IQI 02) | Specification/ Calculation | Acute mumps pancreatitis (072.3) was added to the numerator exclusion for acute pancreatitis. |
| V5.0 | March 2015 | Abdominal Aortic Aneurysm Repair Volume (IQI 04) | Specification/ Calculation | Stratification priority was modified from relative prevalence in the reference population to prior probability of death |
| V5.0 | March 2015 | Pancreatic Resection Mortality Rate (IQI 09) | Specification/ Calculation | Logic was modified to ensure that strata are mutually exclusive. |
| V5.0 | March 2015 | Pancreatic Resection Mortality Rate (IQI 09) | Specification/ Calculation | Acute mumps pancreatitis (072.3) was added to the denominator exclusion for acute pancreatitis. |

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|--------------------------------|------------|--|-------------------------------|---|
| V5.0 | March 2015 | Abdominal Aortic Aneurysm Repair Mortality Rate (IQI 11) | Specification/ Calculation | Stratification priority was modified from relative prevalence in the reference population to prior probability of death |
| V5.0 | March 2015 | Acute Stroke Mortality Rate (IQI 17) | Specification/ Calculation | Stratification priority was modified from relative prevalence in the reference population to prior probability of death |
| V5.0 | March 2015 | Gastrointestinal Hemorrhage Mortality Rate (IQI 18) | Specification/ Calculation | Esophageal varices in dis classified elsewhere w bleeding (456.20) and GI laceration/hemorrhage syndrome (530.7) were added to the denominator specification. |
| V5.0 | March 2015 | Pneumonia Mortality Rate (IQI 20) | Specification/ Calculation | Influenza virus due to identified avian influenza virus (488.01), H1N1 virus (488.11), or identified novel influenza virus with pneumonia (488.81) were added to the denominator specification. |
| V5.0 | March 2015 | Bilateral Cardiac Catheterization Rate (IQI 25) | Specification/ Calculation | Rheumatic chorea without heart involvement (392.9) was removed from numerator exclusion for indications for right sided catheterization. |
| V5.0 | March 2015 | IQSASA3 | Specification/ Calculation | Age/Sex risk-adjustment models were updated with the 2012 reference population file; the code was revised to use new regression coefficients. |
| V5.0 | March 2015 | IQSASP3 | Specification/ Calculation | Risk adjustment models were updated using the 2012 reference population file; The code was revised to use new regression coefficients. |

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|--------------------------------|------------|---------------|-------------------------------|---|
| V5.0 | March 2015 | All IQI | Specification/ Calculation | Version 32 of the 3M limited-license APR-DRG grouper has been incorporated into the AHRQ QI software and will be run with and without POA. |
| V5.0 | March 2015 | IQI Composite | Specification/ Calculation | Weights for the measures that make up the Composite measure were updated using the 2012 reference population. |
| V5.0 | March 2015 | All IQI | Specification/ Calculation | The reference population was updated based on 2012 HCUP SIDS data. |
| V5.0 | March 2015 | All IQI | Specification/ Calculation | The population file was updated with US Census County estimates for 2014. |
| V4.5a | July 2014 | IQI 02 | Specification/ Calculation | To ensure that the strata are mutually exclusive within each indicator, strata were prioritized according to their relative prevalence in the reference population. Order of priority for IQI 2 is Strata A, B. |
| V4.5a | July 2014 | IQI 04 | Specification/ Calculation | To ensure that the strata are mutually exclusive within each indicator, strata were prioritized according to their relative prevalence in the reference population. Order of priority for IQI 4 is Strata A, C, B, D. |
| V4.5a | July 2014 | IQI 09 | Specification/ Calculation | To ensure that the strata are mutually exclusive within each indicator, strata were prioritized according to their relative prevalence in the reference population. Order of priority for IQI 9 is Strata A, B. |

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| V4.5a | July 2014 | IQI 11 | Specification/ Calculation | To ensure that the strata are mutually exclusive within each indicator, strata were prioritized according to their relative prevalence in the reference population. Order of priority for IQI 11 is Strata A, C, B, D. |
| V4.5a | July 2014 | IQI 17 | Specification/ Calculation | To ensure that the strata are mutually exclusive within each indicator, strata were prioritized according to their relative prevalence in the reference population. Order of priority for IQI 17 is Strata B, A, C. |
| V4.5a | Nov 3013 | All IQI | Specification/ Calculation | Version 31 (FY14) of the 3M limited-license APR-DRG grouper has been incorporated into the AHRQ QI software. |
| V4.5a | July 2014 | All IQIs | Software (WinQI, V4.6) | A denominator adjustment added to SAS for Version 4.4 has been added to WinQI. This applies to the census population counts when certain combinations of strata are zero. |
| V4.5a | July 2014 | IQI 04, IQI 11 | Software (SAS, V4.5a) | Erroneous program comments in IQSAS1.SAS describing the strata for IQI 04 and IQI 11 have been corrected. |
| V4.5a | July 2014 | All IQIs | Software (SAS, V4.5a) | To improve output of results in a better format, the PROC MEANS statement was modified. |
| V4.5 | May 2013 | All area IQI | Specification/ Calculation | Updated data are used for population estimates (i.e., through 2013). The population data are used to calculate the denominator for the area-level QI. |

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|--------------------------------|----------|---|-------------------------------|--|
| V4.5 | May 2013 | All IQI | Specification/ Calculation | Updated reference population rates were calculated using 44 state files from the 2010 State Inpatient Databases (SID). New risk adjustment coefficients were calculated using the updated reference population. |
| V4.5 | May 2013 | Esophageal Resection Volume (IQI 1) | Specification/ Calculation | Drop MDC 14 (pregnancy, childbirth, and puerperium) numerator exclusion |
| V4.5 | May 2013 | Pancreatic Resection Volume (IQI 2) | Specification/ Calculation | <p>1. Add numerator inclusion codes for any procedure of partial pancreatic resection:</p> <p>5251 PROXIMAL PANCREATECTOMY 5252 DISTAL PANCREATECTOMY 5253 RAD SUBTOT PANCREATECTOM 5259 PARTIAL PANCREATECT NEC</p> <p>2. Add numerator exclusion codes for any diagnosis code of acute pancreatitis: 5770 ACUTE PANCREATITIS</p> <p>3. Drop MDC 14 (pregnancy, childbirth, and puerperium) numerator exclusion</p> <p>4. Stratified into two categories:</p> <ul style="list-style-type: none"> • Stratum A: Any diagnosis code of pancreatic cancer • Stratum B: All other cases <p>The software reports an observed rate, an expected rate, a risk-adjusted rate, and confidence limits around the risk-adjusted rate for each stratum. The smoothed rate and posterior standard deviation are not reported for the strata. All results for the measure aggregated across the strata are still reported.</p> |
| V4.5 | May 2013 | Coronary Artery Bypass Graft Volume (IQI 5) | Specification/ Calculation | Drop MDC 14 (pregnancy, childbirth, and puerperium) numerator exclusion |

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|--------------------------------|----------|---|-------------------------------|--|
| V4.5 | May 2013 | Percutaneous Coronary Intervention Volume (IQI 6) | Specification/ Calculation | Drop MDC 14 (pregnancy, childbirth, and puerperium) numerator exclusion |
| V4.5 | May 2013 | Carotid Endarterectomy Volume (IQI 7) | Specification/ Calculation | Drop MDC 14 (pregnancy, childbirth, and puerperium) numerator exclusion |
| V4.5 | May 2013 | AAA Repair Volume (IQI 4) | Specification/ Calculation | <p>1. Drop MDC 14 (pregnancy, childbirth, and puerperium) numerator exclusion</p> <p>2. Stratified into four categories:</p> <ul style="list-style-type: none"> • Stratum A: Any diagnosis code of unruptured AAA and any procedure code for open AAA repair • Stratum B: Any diagnosis code of ruptured AAA and any procedure code for open AAA repair • Stratum C: Any diagnosis code of unruptured AAA and any procedure code for endovascular AAA repair • Stratum D: Any diagnosis code of ruptured AAA and any procedure code for endovascular AAA repair <p>The software reports an observed rate, an expected rate, a risk-adjusted rate, and confidence limits around the risk-adjusted rate for each stratum. The smoothed rate and posterior standard deviation are not reported for the strata. All results for the measure aggregated across the strata are still reported.</p> |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|----------|------------------------------------|-------------------------------|---|
| V4.5 | May 2013 | AAA Repair Mortality Rate (IQI 11) | Specification/ Calculation | <p>Stratified into four categories:</p> <ul style="list-style-type: none"> • Stratum A: Any diagnosis code of unruptured AAA and any procedure code for open AAA repair • Stratum B: Any diagnosis code of ruptured AAA and any procedure code for open AAA repair • Stratum C: Any diagnosis code of unruptured AAA and any procedure code for endovascular AAA repair • Stratum D: Any diagnosis code of ruptured AAA and any procedure code for endovascular AAA repair <p>The software reports an observed rate, an expected rate, a risk-adjusted rate, and confidence limits around the risk-adjusted rate for each stratum. The smoothed rate and posterior standard deviation are not reported for the strata. All results for the measure aggregated across the strata are still reported.</p> |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|----------|---|-------------------------------|--|
| V4.5 | May 2013 | Pancreatic Resection Mortality Rate (IQI 9) | Specification/ Calculation | <p>1. Add denominator inclusion codes for any procedure of partial pancreatic resection:</p> <p>5251 PROXIMAL PANCREATECTOMY 5252 DISTAL PANCREATECTOMY 5253 RAD SUBTOT PANCREATECTOM 5259 PARTIAL PANCREATECT NEC</p> <p>2. Drop denominator inclusion codes for any diagnosis code of pancreatic cancer:</p> <p>1520 MALIGNANT NEOPL DUODENUM 1561 MAL NEO EXTRAHEPAT DUCTS 1562 MAL NEO AMPULLA OF VATER 1570 MAL NEO PANCREAS HEAD 1571 MAL NEO PANCREAS BODY 1572 MAL NEO PANCREAS TAIL 1573 MAL NEO PANCREATIC DUCT 1574 MAL NEO ISLET LANGERHANS 1578 MALIG NEO PANCREAS NEC 1579 MALIG NEO PANCREAS NOS</p> <p>3. Add denominator exclusion codes for any diagnosis code of acute pancreatitis:</p> <p>5770 ACUTE PANCREATITIS</p> <p>4. Stratified into two categories:</p> <ul style="list-style-type: none"> • Stratum A: Any diagnosis code of pancreatic cancer • Stratum B: All other cases <p>The software reports an observed rate, an expected rate, a risk-adjusted rate, and confidence limits around the risk-adjusted rate for each stratum. The smoothed rate and posterior standard deviation are not reported for the strata. All results for the measure aggregated across the strata are still reported.</p> |

AHRQ Quality Indicators™

Inpatient Quality Indicators (IQI), Log of ICD-9-CM and DRG Coding Updates and Revisions to IQI Documentation and Software

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|----------|--------------------------------------|-------------------------------|--|
| V4.5 | May 2013 | All IQI | Software/ Documentation | The Limited License edition of the 3M™ APR DRG Grouper was updated from Version 29 to Version 30. In addition, the APR DRG Grouper software embedded in the AHRQ QI v4.5 software is compatible with AHRQ QI software designed for the 32-bit and 64-bit environment. |
| V4.5 | May 2013 | Acute Stroke Mortality Rate (IQI 17) | Specification/ Calculation | Stratified into three categories: <ul style="list-style-type: none"> • Stratum A: Subarachnoid stroke • Stratum B: Hemorrhagic stroke • Stratum C: Ischemic stroke |
| V4.5 | May 2013 | All mortality IQI | Specification/ Calculation | Modify the parameters in the analysis module for measures that are never present on admission (this is, where P=0 for all cases) by increasing the estimated precision threshold, i.e., modify the precision parameter in the analysis module to less than 1×10^9 . This change only affected the software. The user will not see the |
| V4.5 | May 2013 | All IQI | Software/ Documentation | Respiratory complications diagnosis codes – Corrections were made to assure that three specific diagnosis codes were present in both the SAS and WinQI software. This change only affected the software. |
| V4.5 | May 2013 | All IQI | Software/ Documentation | In WinQI there was an error in the smoothed rate calculation involving the noise variance and signal variance. This error was not previously observed because it only became significant in particular cases with relatively unusual variances. This issue was fixed in WinQI Version 4.5. |
| V4.5 | May 2013 | All IQI | Software/ Documentation | The variable DISCWT in SAS QI v4.5 was set equal to 1 and the variable DISCWT was removed from the KEEP statement associated with the input file. This change ensures that the SAS programs do not account for complex sampling design when calculating QI estimates and standard errors. The SAS QI software, beginning with Version 4.1, does not support weighted QI estimates or standard errors for weighted estimates. The WinQI software has never supported weighted QI estimates or standard errors for weighted estimates. |

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| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|----------|---------------------------|----------------------------|---|
| V4.5 | May 2013 | All IQI | Software/ Documentation | The installation packages have been improved for Version 4.5 of the SAS and WinQI software, including the Prediction Module and 3M™ APR DRG software. Both the SAS and WinQI software are available in Version 4.5 as either 32-bit or 64-bit applications. The 32-bit applications are targeted for Windows XP operating systems, and the 64-bit applications are targeted for Windows 7 operating systems. |
| V4.5 | May 2013 | All IQI | Software/ Documentation | <p>The WinQI software was corrected to address the following issues:</p> <ol style="list-style-type: none"> 1. On Step 2 of the Sampling Wizard dialog, the Sample Data File text box was not working correctly. Users were not able to save the file specified using the Browse explorer function. This issue has been fixed in WinQI Version 4.5. 2. Denominators were not being adjusted (i.e., dividing by the number of discharge quarters) when the calculations were being stratified by quarter. This issue has been fixed in WinQI Version 4.5. 3. On the WinQI Additional Options for Data Analysis screen of the Report Wizard, if the “<i>Ref. Pop. Rate</i>” is deselected, and then the expected rate and O/E ratio are reported incorrectly. These rates should be disabled on this screen if “<i>Ref. Pop. Rate</i>” is not selected. This issue has been included in the software documentation. 4. The compiled C# program was named AHRQ.exe, and this was the same name used for the compiled Prediction Module C++ program. This potential conflict has been fixed in WinQI Version 4.5. <p>Excel files with an .xlsx extension were not recognized. MS Access file types also needed to be updated. These issues were fixed in WinQI Version 4.5.</p> |
| V4.5 | May 2013 | AAA Repair Volume (IQI 4) | Software/ Documentation | IQI #4 Technical Specification and SAS syntax – An error was corrected in the Technical Specification and SAS syntax for IQI #4 related to the handling of missing discharge disposition (DISP) codes. This change affected both the software and documentation. |

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Inpatient Quality Indicators (IQI), Log of ICD-9-CM and DRG Coding Updates and Revisions to IQI Documentation and Software

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|----------|--|----------------------------|---|
| V4.5 | May 2013 | Cesarean Delivery Rate (IQI 21) | Software/ Documentation | Rename indicator to Cesarean Delivery Rate, Uncomplicated. This change affected both the software and documentation. |
| V4.5 | May 2013 | Incidental Appendectomy in the Elderly Rate (IQI 24) | Software/Docu mentation | 1. Drop numerator inclusion codes for any procedure of incidental appendectomy: 4382 LAP VERTICAL GASTRECTOMY This change only affected the documentation. 2. Add denominator inclusion codes for any procedure of incidental appendectomy: 4382 LAP VERTICAL GASTRECTOMY This change only affected the documentation. |
| V4.5 | May 2013 | Bilateral Cardiac Catheterization Rate (IQI 25) | Software/ Documentation | SAS Version 4.4 is missing the right heart catheterization diagnosis code 41512. This code has been added to SAS Version 4.5. This change only affected the software. |
| V4.5 | May 2013 | Primary Cesarean Delivery Rate (IQI 33) | Software/Docu mentation | Rename indicator to Primary Cesarean Delivery Rate, Uncomplicated. This change affected both the software and documentation. |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|------------|--|----------------------------|---|
| V4.5 | May 2013 | Cesarean Delivery Rate, Uncomplicated (IQI 21) Vaginal Birth After Cesarean (VBAC) Delivery Rate, Uncomplicated (IQI 22) Incidental Appendectomy in the Elderly Rate (IQI 24) Bilateral Cardiac Catheterization Rate (IQI 25) Primary Cesarean Delivery Rate, Uncomplicated (IQI 33) Vaginal Birth After Cesarean (VBAC) Rate, All (IQI 34) | Software/ Documentation | Expected rates, risk-adjusted rates, and smoothed rates are no longer reported for these measures. These measures are not risk-adjusted, so only the numerators, denominators, and observed rates are reported by the software. |
| V4.4 | March 2012 | All Area IQI | Software/Docu mentation | Updated data are used for population estimates (i.e., through 2012). The population data are used to calculate the denominator for the area-level QI. The comparative data tables have been updated using Version 4.4 of the software. Because the risk adjustment models and reference population have not changed for Version 4.4, the Risk Adjustment Coefficients remain as they were in Version 4.3. |
| V4.4 | March 2012 | Abdominal Aortic Aneurysm Repair Volume (IQI 4) | Fiscal Year Coding | Add numerator codes: 3977 TEMP ENDOVSC OCCLS VESSEL 3978 ENDOVAS IMPLN GRFT AORTA |

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Inpatient Quality Indicators (IQI), Log of ICD-9-CM and DRG Coding Updates and Revisions to IQI Documentation and Software

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|---------------|--|----------------------------|---|
| V4.4 | March 2012 | Abdominal Aortic Aneurysm Repair Mortality Rate (IQI 11) | Fiscal Year Coding | Add numerator codes: 3977 TEMP ENDOVASC OCCLUS VESSEL 3978 ENDOVASC IMPLN GRFT AORTA |
| V4.4 | March 2012 | Incidental Appendectomy in the Elderly Rate (IQI 24) | Fiscal Year Coding | Add numerator code: 4382 LAP VERTICAL GASTRECTOMY |
| V4.4 | March 2012 | Bilateral Cardiac Catheterization Rate (IQI 25) | Fiscal Year Coding | 1. Add numerator exclusion codes: 41513 SADDLE EMBOL PULMON ART 42511 HYPERTROPHIC OBST CARDIOMY 42518 OTH HYPERTROPHIC CARDIOMY 74731 PULMON ART COARCT/ATRES Add denominator inclusion code: 4144 COR ATH D/T CALC COR LSN |
| V4.4 | March 2012 | Percutaneous Transluminal Coronary Angioplasty (PTCA) Volume (IQI 6) | Software/ Documentation | Rename indicator to Percutaneous Coronary Intervention (PCI) Volume Rationale: Percutaneous coronary intervention encompasses other interventions that do not involve the use of balloons. |
| V4.4 | March 2012 | Congestive Heart Failure (CHF) Mortality Rate (IQI 16) | Software/Docu mentation | Rename indicator to Heart Failure Mortality Rate Rationale: Many patients with heart failure do not experience congestion of the lungs. |
| V4.4 | March 2012 | Percutaneous Transluminal Coronary Angioplasty (PTCA) Rate (IQI 27) | Software/ Documentation | Rename indicator to Percutaneous Coronary Intervention (PCI) Rate Rationale: Percutaneous coronary intervention encompasses other interventions that do not involve the use of balloons. |

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Inpatient Quality Indicators (IQI), Log of ICD-9-CM and DRG Coding Updates and Revisions to IQI Documentation and Software

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|------------|--|----------------------------|---|
| V4.4 | March 2012 | Percutaneous Transluminal Coronary Angioplasty (PTCA) Mortality (IQI 30) | Software/ Documentation | Rename indicator to Percutaneous Coronary Intervention (PCI) Mortality Rationale: Percutaneous coronary intervention encompasses other interventions that do not involve the use of balloons. |
| V4.4 | March 2012 | Hip Replacement Mortality Rate (IQI 14) | Software/ Documentation | ICD-9-CM Osteoarthritis diagnosis codes 71500 and 71509 have the same short description by corresponding to “Osteoarthritis, generalized, site unspecified” and “Osteoarthritis, generalized, multiple sites”, respectively. In the specification ‘NOS’ and ‘MULT’, respectively, were added to the short description in the specification. |
| V4.4 | March 2012 | Software | Software/ Documentation | SAS v4.3 did not properly handle stratifications where the user requested a two-way stratification that overlapped with a one-way stratification (e.g., Age-by-Gender at the same time as Age by itself). This issue was fixed in v4.4 of SAS. |
| V4.4 | March 2012 | Software | Software/ Documentation | Changes were made to the SAS and WinQI software to implement a re-estimation of the signal variance in order to correct the fact that the smoothed rates in v4.3 of the software were constant for all providers for four indicators (IQI-11 and IQI-14). |
| V4.4 | March 2012 | Software | Software/ Documentation | IQSASA2.SAS program was revised to include denominator adjustment when the population count for certain combination of strata was zero. |
| V4.4 | March 2012 | Software | Software/ Documentation | New version of 3M™ APR™ DRG Limited License Grouper (V29) from 3M was used. |
| V4.4 | March 2012 | Software | Software/ Documentation | WinQI v4.3 was missing the PRPED5D code set and codes 7454 and 7455. This issue was fixed in v4.4 of WinQI. |
| V4.4 | March 2012 | Software | Software/ Documentation | The WinQI v4.3 patient-level report showed incorrect POA exclusions in some cases. This issue was fixed in v4.4 of WinQI. |
| V4.4 | March 2012 | Software | Software/ Documentation | WinQI v4.3 did not properly implement a user selection of year 2010 during report generation. This issue was fixed in v4.4 of WinQI. |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|------------|-----------|----------------------------|--|
| V4.4 | March 2012 | Software | Software/ Documentation | WinQI v4.3 was not properly calculating quarterly rates when requested by the user. This issue was fixed in v4.4 of WinQI. |
| V4.4 | March 2012 | Software | Software/ Documentation | Both SAS and WinQI v4.3 were improperly truncating the (Observed rate) / (Expected rate) ratio and associated upper confidence bound (95%) to be ≤ 1.0 in cases where a stratification of the rates was being implemented. This issue was fixed in WinQI and partially fixed in SAS so that this truncation only applies in cases where no stratification is being performed. In SAS, (Observed rate) / (Expected rate) ratio upper confidence bounds for provider-level, non-risk-adjusted IQI and provider-level, non-risk-adjusted PSI are still truncated to be ≤ 1.0 in cases where a stratification of the rates is being implemented. This issue will be fixed in v4.5. Users may obtain the upper confidence bound (95%) using the following formula: upper confidence bound = (2 * ratio) – lower confidence bound. |
| V4.4 | March 2012 | Software | Software/ Documentation | SAS v4.3 did not properly handle stratifications where the user requested a two-way stratification that overlapped with a one-way stratification (e.g., Age-by-Gender at the same time as Age by itself). This issue was in fixed in v4.4 of SAS. |
| V4.4 | March 2012 | Software | Software/ Documentation | Miscellaneous software related issues and minor coding errors have been corrected in the SAS software for the IQI-90 and IQI-91 provider composite QI. |
| V4.4 | March 2012 | Software | Software/ Documentation | WinQI v4.3 and v4.4 do not check for a possible issue with user-defined composite weighting – users must set weights for all possible individual indicators, including zero weights for indicators that are not to be included in the composite. This requirement has been included in the software documentation. |

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Inpatient Quality Indicators (IQI), Log of ICD-9-CM and DRG Coding Updates and Revisions to IQI Documentation and Software

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|--------------------|--|----------------------------|---|
| V4.4 | March 2012 | Software | Software/ Documentation | SAS and WinQI v4.4 remain 32-bit applications developed on a Windows XP operating system. Some limited testing has been performed to ensure that these applications will run successfully under a 64-bit, Windows 7 environment. One additional installation requirement related to administrator rights has been included in the software documentation. |
| V4.3 | June 30, 2011 | Software (SAS and WinQI) and Documentation | Software/ Documentation | IQI #1 and 8: Dropped numerator inclusion for esophageal cancer (151.0), added numerator inclusion for gastrointestinal-related cancer (151.0), modified logic to exclude cases with neither a diagnosis code specific to esophageal cancer nor esophageal resection. |
| V4.3 | June 30, 2011 | Software (SAS and WinQI) and Documentation | Software/ Documentation | IQI #15: Add denominator inclusion for Ami diagnosis (410.00-410.90) to harmonize with CMS 30-day mortality indicator in Hospital Compare |
| V4.3 | June 30, 2011 | Software (SAS and WinQI) and Documentation | Software/ Documentation | Surgical DRG: Added numerator inclusion codes 014 and 015 which were previously assigned to 009. |
| V4.3 | June 30, 2011 | Guide | Software/ Documentation | Revised and updated all sections of the guide document to reflect current state of indicators, software and body of evidence. |
| V4.2 | September 30, 2010 | Incidental Appendectomy Rate in the Elderly (IQI 24) Denominator (Exclusion, cancer adj to appendix) | Coding | Add: 209.74 Secondary neuroendocrine tumor of peritoneum |
| V4.2 | September 30, 2010 | Multiple IQI Indicators | Coding | Add MS-DRG code: 265 Acid lead procedures |

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| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|------------------|---|------------------------|--|
| V4.1 | December 2, 2009 | Software (SAS and Windows), and Documentation | Software/ Documents | IQI #21-25 and 33-34: Risk adjustment has been removed because for process measures the standard practice is not to risk adjust the measure, but to exclude from the denominator patients that are not indicated for the measure (that is, where the process measure is not considered appropriate.) |
| V4.0 | June 30, 2009 | Software (SAS and Windows), and Documentation | Software/ Documents | IQI #1 and IQI #8 – Esophageal resection volume and mortality – added Other total gastrectomy (43.99) procedure code to denominator inclusion criteria for esophageal resection only if accompanied by selected principal diagnosis codes |
| V4.0 | June 30, 2009 | Software (SAS and Windows), and Documentation | Software/ Documents | IQI #13 – Craniotomy mortality – added denominator inclusion criteria for MS-DRGs for discharges after 2007Q4 (effective October 1, 2007) |
| V4.0 | June 30, 2009 | Software (SAS and Windows), and Documentation | Software/ Documents | IQI #14 – Hip replacement mortality – added denominator exclusion for diagnosis of hip fracture |
| V4.0 | June 30, 2009 | Software (SAS and Windows), and Documentation | Software/ Documents | IQI #19 – Hip fracture mortality – added denominator exclusion for diagnosis of periprosthetic fracture (996.44) |
| V4.0 | June 30, 2009 | Software (SAS and Windows), and Documentation | Software/ Documents | IQI #21 – Cesarean Section Delivery – added denominator inclusion criteria for MS-DRGs for discharges after 2007Q4 (effective October 1, 2007) |
| V4.0 | June 30, 2009 | Software (SAS and Windows), and Documentation | Software/ Documents | IQI #22 – VBAC – 1) added denominator inclusion criteria for MS-DRGs for discharges after 2007Q4 (effective October 1, 2007); 2) added numerator inclusion criteria for MS-DRGs for discharges after 2007Q4 (effective October 1, 2007) |

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Inpatient Quality Indicators (IQI), Log of ICD-9-CM and DRG Coding Updates and Revisions to IQI Documentation and Software

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|---|------------------|---|---------------------------------|---|
| V4.0 | June 30, 2009 | Software (SAS and Windows), and Documentation | Software/ Documents | IQI #24 – Incidental appendectomy – 1) replaced the DRG denominator inclusion for Intra-Abdominal Procedure with a procedure code denominator inclusion for abdominal and pelvic surgery; 2) added denominator exclusion for surgical removal of the colon (colectomy) or pelvic evisceration; 3) added denominator exclusion for diagnosis of cancer involving or adjacent to the appendix |
| V4.0 | June 30, 2009 | Software (SAS and Windows), and Documentation | Software/ Documents | IQI #25 – Bilateral catheterization – added diagnosis codes to denominator exclusion for indications for right heart catheterization |
| V4.0 | June 30, 2009 | Software (SAS and Windows), and Documentation | Software/ Documents | Implement UB-04 – The UB-04 (effective October 1, 2007) changes were implemented including new data elements for point-of-origin and present on admission |
| V4.0 | June 30, 2009 | Software (SAS and Windows), and Documentation | Software/ Documents | Update Benchmarking Data to 2007 – used data from the 2007 SID for computation of benchmarks |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|--|------------------------|---|
| V4.0 | February 20, 2009 | Incidental appendectomy (IQI 24) Denominator (Inclusion, abdominal and pelvic surgery) | Coding | Add codes: 17.11 Laparoscopic repair of direct inguinal hernia with graft or prosthesis 17.12 Laparoscopic repair of indirect inguinal hernia with graft or prosthesis 17.13 Laparoscopic repair of inguinal hernia with graft or prosthesis, NOS 17.21 Laparoscopic bilateral repair of direct inguinal hernia with graft or prosthesis 17.22 Laparoscopic bilateral repair of indirect inguinal hernia with graft or prosthesis 17.23 Laparoscopic bilateral repair of inguinal hernia, one direct and one indirect, with graft or prosthesis 17.24 Laparoscopic bilateral repair of inguinal hernia with graft or prosthesis, NOS 48.40 Pull through resection of rectum, NOS 48.42 Lap pull-through resection of rectum 48.43 Open pull-through resection of rectum 48.50 Abdominoperineal resection of rectum, NOS 48.51 Laparoscopic abdominoperineal resection of rectum 48.52 Open abdominoperineal resection of rectum 48.59 Other abdominoperineal resection of rectum 53.42 Laparoscopic repair of umbilical hernia with graft or prosthesis 53.43 Other laparoscopic umbilical herniorrhaphy 53.62 Laparoscopic incisional hernia repair with graft or prosthesis 53.63 Other laparoscopic repair of other hernia of anterior abdominal wall with graft or prosthesis 53.71 Lap repair of diaphragmatic hernia, abdominal approach 53.72 Other and open repair of diaphragmatic hernia, abdominal approach 53.75 Repair of diaphragmatic hernia, abdominal approach, NOS |
| V4.0 | February 20, 2009 | Pneumonia Mortality Rate (IQI 20) Denominator (Inclusion, pneumonia) | Coding | Modify code: 482.41 Methicillin susceptible pneumonia due to Staphylococcus aureus Add code: Methicillin resistant pneumonia due to Staphylococcus aureus |

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| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|--|--------------------------------|--|
| V4.0 | February 20, 2009 | Cesarean Section Delivery (IQI 21) Denominator (Exclusion, problem deliveries) | Coding | Add codes: 678.10 Fetal conjoined twins, unspecified as to episode of care or not applicable 678.11 Fetal conjoined twins, delivered, with or without mention of antepartum condition 678.13 Fetal conjoined twins, antepartum condition or complication |
| V4.0 | February 20, 2009 | Incidental appendectomy (IQI 24) Denominator (Exclusion, surgical removal of colon or pelvic evisceration) | Coding | Add codes: 17.31 Laparoscopic multiple segmental resection of large intestine 17.32 Laparoscopic cecectomy 17.33 Laparoscopic right hemicolectomy 17.34 Laparoscopic resection of transverse colon 17.35 Laparoscopic left hemicolectomy 17.36 Laparoscopic sigmoidectomy 17.39 Other laparoscopic partial excision of large intestine 45.81 Laparoscopic total intra-abdominal colectomy 45.82 Open total intra-abdominal colectomy Other and unspecified total intra-abdominal colectomy |
| V4.0 | February 20, 2009 | Bilateral Catheterization Rate (IQI 25) Denominator (Inclusion, coronary artery disease) | Coding | Add code: 414.3 Coronary atherosclerosis due to lipid rich plaque |
| V4.0 | February 20, 2009 | Hip Replacement Mortality (IQI 14) Denominator (Exclusion, diagnosis of hip fracture) | Indicator Specification Change | Add denominator exclusion for diagnosis of hip fracture (\$MTHIPFD) |
| V4.0 | February 20, 2009 | Incidental Appendectomy (IQI 24) Denominator (Inclusion) | Indicator Specification Change | Replace the DRG denominator inclusion for Intra-Abdominal Procedure (PRAPPNG) with a procedure code denominator inclusion for abdominal and pelvic surgery (\$PRAPP2P). See Appendix A for abdominal and pelvic surgery procedure codes as of February 2009. |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|---|--------------------------------|---|
| V4.0 | February 20, 2009 | Esophageal Resection Volume (IQI 1) Denominator (Inclusion, esophageal resection) | Indicator Specification Change | <p>Add procedure code to denominator inclusion criteria for esophageal resection (\$PRESO2P) only if accompanied by selected <i>principal</i> diagnosis codes (\$PRESOPD and \$PRESO2D)</p> <p>Add code: 43.99 Other total gastrectomy</p> <p>ONLY if codes: 150.1 Malignant neoplasm of esophagus, cervical 150.2 Malignant neoplasm of esophagus, thoracic 150.3 Malignant neoplasm of esophagus, abdominal 150.4 Malignant neoplasm of esophagus, upper third of 150.5 Malignant neoplasm of esophagus, middle third of 150.6 Malignant neoplasm of esophagus, lower third of 150.8 Malignant neoplasm of esophagus, other specified part 150.9 Malignant neoplasm of esophagus, unspecified 151.0 Malignant neoplasm of stomach, cardia 197.8 Secondary malignant neoplasm of respiratory and digestive systems, other digestive organs and spleen 230.1 Carcinoma in situ of digestive organs, Esophagus 235.5 Neoplasm of uncertain behavior of digestive and respiratory systems, other and unspecified digestive organs</p> <p>Add diagnosis code to denominator inclusion criteria for esophageal resection (\$PRESOPD)</p> <p>Add code: 151.0 Malignant neoplasm of stomach, cardia</p> |
| V4.0 | February 20, 2009 | Hip Fracture Mortality (IQI 19) Denominator (Exclusion, diagnosis of periprosthetic fracture) | Indicator Specification Change | <p>Add denominator exclusion for diagnosis of periprosthetic fracture (\$MTHIP2D)</p> <p>Add code: 996.44 Mechanical complication of internal orthopedic device, implant, and graft, periprosthetic fracture around prosthetic joint</p> |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|--|--------------------------------|--|
| V4.0 | February 20, 2009 | Esophageal Resection Mortality (IQI 8) Denominator (Inclusion, esophageal resection) | Indicator Specification Change | <p>Add procedure code to denominator inclusion criteria for esophageal resection (\$PRESO2P) only if accompanied by selected <i>principal</i> diagnosis codes (\$PRESOPD and \$PRESO2D)</p> <p>Add code: 43.99 Other total gastrectomy ONLY if codes: 150.1 Malignant neoplasm of esophagus, cervical 150.2 Malignant neoplasm of esophagus, thoracic 150.3 Malignant neoplasm of esophagus, abdominal 150.4 Malignant neoplasm of esophagus, upper third of 150.5 Malignant neoplasm of esophagus, middle third of 150.6 Malignant neoplasm of esophagus, lower third of 150.8 Malignant neoplasm of esophagus, other specified part 150.9 Malignant neoplasm of esophagus, unspecified 151.0 Malignant neoplasm of stomach, cardia 197.8 Secondary malignant neoplasm of respiratory and digestive systems, other digestive organs and spleen 230.1 Carcinoma in situ of digestive organs, Esophagus 235.5 Neoplasm of uncertain behavior of digestive and respiratory systems, other and unspecified digestive organs</p> <p>Add diagnosis code to denominator inclusion criteria for esophageal resection (\$PRESOPD)</p> <p>Add code: 151.0 Malignant neoplasm of stomach, cardia</p> |
| V4.0 | February 20, 2009 | VBAC (IQI 22) Numerator (Inclusion, discharges after 2007Q4) | Indicator Specification Change | <p>Add numerator inclusion criteria for MS-DRGs for discharges after 2007Q4 (effective October 1, 2007)</p> <p>Add codes: 767 Vaginal delivery w sterilization &/or D&C 768 Vaginal delivery w O.R. proc except steril &/or D&C 774 Vaginal delivery w complicating diagnoses</p> |

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| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|---|--------------------------------|---|
| V4.0 | February 20, 2009 | Cesarean Section Delivery (IQI 21) Denominator (Inclusion, discharges after 2007Q4) | Indicator Specification Change | <p>Add denominator inclusion criteria for MS-DRGs for discharges after 2007Q4 (effective October 1, 2007)</p> <p>Add codes: 765 Cesarean section w CC/MCC 766 Cesarean section w/o CC/MCC 767 Vaginal delivery w sterilization &/or D&C 768 Vaginal delivery w O.R. proc except steril &/or D&C 774 Vaginal delivery w complicating diagnoses 775 Vaginal delivery w/o complicating diagnoses</p> |
| V4.0 | February 20, 2009 | Craniotomy Mortality (IQI 13) Denominator (Inclusion, discharges after 2007Q4) | Indicator Specification Change | <p>Add denominator inclusion criteria for MS-DRGs for discharges after 2007Q4 (effective October 1, 2007)</p> <p>Add codes: 020 Intracranial vascular procedures with PDX hemorrhage wMCC 021 Intracranial vascular procedures with PDX hemorrhage wCC 022 Intracranial vascular procedures with PDX hemorrhage w/o CC/MCC 023 Craniotomy w major device implant or acute complex CNS PDX w MCC 024 Craniotomy w major device implant or acute complex CNS PDX w/oMCC 025 Craniotomy & endovascular intracranial procedures wMCC 026 Craniotomy & endovascular intracranial procedures wCC 027 Craniotomy & endovascular intracranial procedures w/o CC/MCC 031 Ventricular shunt procedures with MCC 32 Ventricular shunt procedures w CC Ventricular shunt procedures w/o CC/MCC</p> |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|--|--------------------------------|---|
| V4.0 | February 20, 2009 | VBAC (IQI 22) Denominator (Inclusion, discharges after 2007Q4) | Indicator Specification Change | Add denominator inclusion criteria for MS-DRGs for discharges after 2007Q4 (effective October 1, 2007) Add codes: 765 Cesarean section w CC/MCC 766 Cesarean section w/o CC/MCC 767 Vaginal delivery w sterilization &/or D&C 768 Vaginal delivery w O.R. proc except steril &/or D&C 774 Vaginal delivery w complicating diagnoses 775 Vaginal delivery w/o complicating diagnoses |
| V4.0 | February 20, 2009 | Incidental Appendectomy (IQI 24) Denominator (Exclusion, surgical removal of the colon or pelvic evisceration) | Indicator Specification Change | Add denominator exclusion for surgical removal of the colon (colectomy) or pelvic evisceration (\$PRAPP3P) Add codes: 45.71 Multiple Segmental Resection of Large Intestine Cecectomy 45.73 Right Hemicolectomy 45.74 Resection Of Transverse Colon 45.75 Left Hemicolectomy 45.76 Sigmoidectomy 45.79 Other Partial Excision of Large Intestine 45.8 Total intra-abdominal colectomy (no longer valid) 68.8 Pelvic evisceration |
| V4.0 | February 20, 2009 | Bilateral Catheterization (IQI 25) Denominator (Exclusion, indications for right heart catheterization) | Indicator Specification Change | Add diagnosis codes to denominator exclusion for indications for right heart catheterization (\$PRCAT2D). See Appendix B for diagnosis codes for indications for right heart catheterization as of February 2009. |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|--|--------------------------------|---|
| V4.0 | February 20, 2009 | Incidental Appendectomy (IQI 24) Denominator (Exclusion, diagnosis of cancer involving or adj to appendix) | Indicator Specification Change | <p>Add denominator exclusion for diagnosis of cancer involving or adjacent to the appendix (PRAPPND)</p> <p>Add codes:</p> <p>153.4 Malignant neoplasm of colon, cecum 153.5 Malignant neoplasm of colon, appendix 153.6 Malignant neoplasm of colon, ascending colon 153.8 Malignant neoplasm of colon, other specified sites of large intestine 153.9 Malignant neoplasm of colon, NOS 158.8 Malignant neoplasm of retroperitoneum and peritoneum, specified parts of peritoneum 158.9 Malignant neoplasm of retroperitoneum and peritoneum, peritoneum, unspecified 159.0 Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum, intestinal tract, part unspecified 159.8 Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum, other sites of digestive system and intra-abdominal organs 159.9 Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum, ill-defined 195.2 Malignant neoplasm of other and ill-defined sites, abdomen 197.5 Secondary malignant neoplasm of respiratory and digestive systems, large intestine and rectum</p> <p>Secondary malignant neoplasm of respiratory and digestive systems, retroperitoneum and peritoneum</p> |
| V3.2 | March 10, 2008 | Bilateral Cardiac Catheterization Rate (IQI 25) Numerator (Inclusion, indication) | Coding | <p>Added new code</p> <p>415.12 SEPTIC PULMONARY EMBOLISM</p> |

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| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|--|------------------------|---|
| V3.2 | March 10, 2008 | Hysterectomy Area Rate (IQI 28) Denominator (Exclusion, genital cancer) | Coding | Added new codes 233.30 CA IN SITU FEM GEN NOS, 233.31 CARCINOMA IN SITU VAGINA, 233.32 CARCINOMA IN SITU VULVA and 233.39 CA IN SITU FEM GEN NEC |
| V3.2 | March 10, 2008 | Multiple PSI and PDI Indicators | Coding | Updated DRG to Version 25.0 |
| V3.2 | March 10, 2008 | SAS Software and Documentation | Software/ Documents | IQI #19 (Hip Fracture Mortality Rate) – Revised the inclusion criteria from discharges 18 and older to discharges age 65 and older |
| V3.1a | March 16, 2007 | SAS Software and Documentation | Software/ Documents | Added program to calculate the IQI composite measures. The new files are IQI_COMPOSITE.SAS and MSXIQC31.TXT. |
| V3.1a | March 16, 2007 | SAS Software (IQSASA2) | Software/ Documents | Amended the aggregation algorithm to correctly sum the numerator and denominator counts across stratifiers. |
| V3.1 | March 12, 2007 | Software (SAS and Windows), Software Documentation, Guide, and Technical Specifications | Software/ Documents | Pneumonia mortality (IQI #20) added code 487.0 and dropped codes 507.0, 510.0, 510.9, 511.0 and 513.0 from the inclusion criteria for denominator in order to align indicator with CMS 30-day mortality indicator. Impact: The rate increases by about 25% |
| V3.1 | March 12, 2007 | Guide | Software/ Documents | Moved average volume, provider rates, and population rates into separate document, <i>Inpatient Quality Indicators Comparative Data</i> . |

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| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|----------------|---|------------------------|---|
| V3.1 | March 12, 2007 | Software (SAS and Windows) | Software/ Documents | <p>Age-, race-, gender- and county-specific population estimates used for AHRQ QI area rates were updated to use revised post-censal estimates for years 2001 through 2005 and projections for the years 2006 and 2007.</p> <p>The syntax will compute risk-adjusted rates and observed-to-expected ratios for the pre-defined set of stratification variables (e.g., age, gender, payer, race). When stratifications other than hospital or area are selected, the RPIQxx variables and their confidence intervals are observed/expected ratios to avoid confounding with risk adjustment variables</p> |
| V 3.1 | March 12, 2007 | Software (SAS and Windows) and Documentation | Software/ Documents | <p>Added capability to apply weight value to each discharge. Added data element DISCWT to hold weight to assign to discharge. Added an option to incorporate the Present on Admission (POA) indicator into risk adjustment and</p> <p>Added Data Elements DXATADMIT1 – DXATADMIT30 to indicate whether the corresponding diagnosis (i.e., DX1 – DX30) was Present on Admission.</p> |
| V 3.1 | March 12, 2007 | SAS Software and Documentation | Software/ Documents | <p>Added alternative POA parameter files of risk-adjustment covariates and population rates using 2002-2004 SID data from California and New York.</p> |
| V3.1 | March 12, 2007 | Software (SAS and Windows), and Covariates document | Software/ Documents | <p>Based on recommendations of the Risk Adjustment and Hierarchical Modeling (RAHM) Workgroup, computed covariates using logistic regression model with a hospital random effect instead of the existing simple logistic model. Because the AHRQ QI use a large sample, the impact on the covariates of using the hierarchical model (and hence the impact on the risk- adjusted rates) is minor.</p> <p>Updated the coefficients used in the calculation of expected and risk-adjusted rates to the reference population, based on the 2002-2004 State Inpatient Data (SID).</p> <p>Updated Covariates document to include the POA coefficients.</p> |

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|--------------------------------|-------------------|--|------------------------|---|
| V3.0 | February 20, 2006 | PTCA Volume (IQI #6) Denominator (Inclusion, PTCA) | Coding | Added new code 00.66 (Percutaneous Transluminal Coronary Angioplasty) to the inclusion criteria. Expected impact on rate: negligible |
| V3.0 | February 20, 2006 | Hip Replacement Mortality (IQI #14) Denominator (Inclusion, Hip Replacement) | Coding | Added new codes 00.70, 00.71, 00.72 and 00.73 (Other hip procedures) to inclusion criteria. Expected impact on rate: negligible |
| V3.0 | February 20, 2006 | PTCA Utilization (IQI #27) Numerator (Inclusion, PTCA) | Coding | Added new code 00.66 (Percutaneous Transluminal Coronary Angioplasty) to the inclusion criteria. Expected impact on rate: negligible |
| V3.0 | February 20, 2006 | PTCA Mortality (IQI #30) Denominator (Inclusion, PTCA) | Coding | Added new code 00.66 (Percutaneous Transluminal Coronary Angioplasty) to the inclusion criteria. Expected impact on rate: negligible |
| V3.0 | February 20, 2006 | Guide | Software/ Documents | Moved Appendix A into new document <i>Inpatient Quality Indicators Technical Specifications</i> . Removed Appendix B. Added new section "Using Different Types of QIRates." Added explanation of changes to area definitions and new stratification options. Changed "MSA" to "Metro Area" throughout the document. |
| V3.0 | February 20, 2006 | Guide, Software Documentation, and Technical Specification | Software/ Documents | Removed Appendices that were copies of Change Log and IndicatorChanges documents. Added Appendix of Links to all IQI documents and additional resources. |

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|--------------------------------|-------------------|--|------------------------|--|
| V3.0 | February 20, 2006 | Software (SAS and SPSS), Software Documentation, Guide, and Technical Specifications | Software/ Documents | <p>Dropped pediatric heart surgery indicators IQI #3 (volume) and IQI #10 (mortality), which are being moved into the new Pediatric Quality Indicators module.</p> <p>Revised multiple indicators to exclude pediatric populations (age less than 18). Specifically, IQIs #1-2, 4-9, 11, 14, 23, 25-27, and 31.</p> <p>Added procedure codes 42.4, 42.5, 42.5x, 42.6, 42.6x to inclusion criteria for IQI #1 (Esophageal Resection Volume) and IQI #8 (Esophageal Resection Mortality).</p> <p>Dropped esophageal cancer diagnosis codes from the inclusion criteria for IQI #1 (Esophageal Resection Volume).</p> <p>Dropped pancreatic cancer diagnosis codes from the inclusion criteria IQI#2 (Pancreatic Resection Volume).</p> <p>Added procedure code 39.71 (Endovascular implantation of graft in abdominal aorta) to inclusion criteria for IQI #4 (AAA Repair Volume) and IQI #11 (AAA Repair Mortality).</p> <p>Dropped procedure code 36.06 from inclusion criteria for IQI #6 (PTCA Volume), IQI #27 (PTCA Utilization) and IQI #30 (PTCA Mortality).</p> <p>Changed references from 3M APR-DRG Version 15.0 to Version 20.0.</p> |
| V3.0 | February 20, 2006 | Software Documentation (SAS and SPSS) | Software/ Documents | <p>Amended Table 2 to add variables for expected, lower and upper CI levels, and standard error of smoothed rate.</p> <p>Amended Table 3 to include the new 1995-2006 census data (POP95TO06.TXT).</p> <p>Removed section "Interpreting the Results".</p> <p>Replaced example printouts with tables explaining contents of columns in printouts.</p> |
| V3.0 | February 20, 2006 | Software (SAS and SPSS) | Software/ Documents | <p>Added the 1995-2006 Census data (e.g., POP95TO06.TXT).</p> <p>Updated the covariates to 3M APR-DRG Version 20.0 (i.e., COVIQP30.TXT).</p> <p>Changed the computation of the risk-adjusted rate to use a proportional formula for indirect standardization.</p> <p>Added a computation of exact confidence limits. Changed name of data element HOSPSTCO to PSTCO.</p> |

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| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|---|------------------------|--|
| V3.0 | February 20, 2006 | Software (SAS and SPSS), Software Documentation and Covariates document | Software/ Documents | Updated the coefficients used in the calculation of expected and risk-adjusted rates to the 2003 reference population. |
| V2.1 R4a | May 18, 2005 | Software (SAS and SPSS) and Covariate Table | Software/ Documents | Updated the 2002 reference population coefficients used in the calculation of expected and risk-adjusted rates. |
| V2.1 R4a | May 18, 2005 | Software (SPSS) | Software/ Documents | Corrected Pediatric Heart Surgery (IQI #3 and #10) exclusion for single procedure of vessel repair or occlusion (impacts less than 0.5% of cases) |
| V2.1 R4 | December 22, 2004 | Craniotomy Mortality (IQI #13) Denominator (Inclusion, Craniotomy) | Coding | New DRG code (FY 2005) 543 (Craniotomy w/ implant of chemo agent or acute complex CNS principal diagnosis) was added to the denominator definition of craniotomy. Expected impact on rate: negligible |
| V2.1 R4 | December 22, 2004 | Guide | Software/ Documents | Corrected the low volume threshold (10) for AAA mortality (IQI #4) in Table 2 Updated the provider, area and population rates in Table 2 and the detailed evidence section using data from the 2002 HCUP SID files. In the detailed evidence section, added a cross reference from each indicator description to the indicator's detailed definition in Appendix A. Included Appendix A titles of detailed definitions in the Table of Contents. |
| V2.1 R4 | December 22, 2004 | Software Documentation (SAS and SPSS) | Software/ Documents | Added new user control parameter YEARQTR to CONTROL_IQI.SAS and IQSPS1.SPS. This parameter is set to 1 if the data elements YEAR and DQTR are available on the input data file. Otherwise the parameter is set to 0. Added optional data elements YEAR (year of patient discharge) and DQTR (calendar quarter of patient discharge) to Table 4. Revised text to reflect that calculation of expected rates is now incorporated. Updated flowchart (Figure 1) to eliminate the parameter file MNSIQP00.TXT and include "expected" in the description of the rates calculated. |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|--|------------------------|---|
| V2.1 R4 | December 22, 2004 | Stroke Mortality (IQI #17) Denominator (Inclusion, Stroke) | Coding | <p>For discharges beginning in FY 2005, ICD-9-CM code 436 “acute, but ill- defined cerebrovascular disease” is dropped from the denominator definition of stroke because the code inclusion terms exclude “cerebrovascular accident (CVA) NOS, Stroke.”</p> <p>Note: Revision 4 adds optional data elements YEAR (year of patient discharge) and DQTR (calendar quarter of patient discharge) to the input data file specifications. If available, these data elements are used to exclude ICD- 9-CM code 436 from the denominator for discharges occurring on or after 10/1/2004. However, ICD-9 code 436 will be retained in the denominator if the data elements year and quarter of discharge are not available or if the user selects the option to retain code 436 for purposes of trending over time or to maintain historical continuity in the rate. However, users are encouraged to transition to the new definition as soon as possible.</p> <p>Expected impact on rate: may result in a decrease in the denominator and resulting increase in the rate. The decrease may be larger in the short-term depending on how quickly coders adapt to the new guidelines.</p> |
| V2.1 R4 | December 22, 2004 | Software (SAS and SPSS) | Software/ Documents | <p>Added an explicit age inclusion (age >=18) to Craniotomy mortality (IQI #13). The age inclusion had been implicit in the DRGs 1,2, but not new DRGs 528, 529, 530 (FY 2004) and 543 (FY 2005).</p> <p>Added optional data elements YEAR (year of patient discharge) and DQTR (calendar quarter of patient discharge). If available, these data elements are used to implement a coding change to Stroke mortality (IQI #17) that drops ICD-9-CM code 436 from the denominator for discharges occurring on or after 10/1/2004. However, ICD-9 code 436 will be retained in the denominator if the data elements year and quarter of discharge are not available or if the user selects the option to retain code 436 for purposes of trending over time.</p> <p>Added the calculation and reporting of the expected rate at the stratification level selected by the user. The SAS (IQSASP3.SAS) and SPSS (IQSPSP3.SPS) software now calculates the risk-adjusted rate, the expected rate and the smoothed rate. The rates are saved in the output file. The user also has the option to print the rates or save the rates in a comma-delimited ASCII file. (Note: the parameter file MNSIQP00.TXT is no longer required).</p> |

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|--------------------------------|------------------|--|------------------------|--|
| V2.1 R3 | July 21, 2004 | Pediatric Heart Surgery Volume (IQI #3) Numerator (Inclusion, Congenital Heart Disease) | Coding | Code (FY 2004) 37.5 “heart transplantation” was modified to require a fourth digit. As a result, new codes 37.51 “heart transplantation” and 37.52 “implantation of total replacement heart system” were added to the base definition (congenital heart disease procedures 1P) for pediatric heart surgery volume. ICD-9 code 37.5 remains in the definition for compatibility with earlier years of data, but is no longer valid as of October 1, 2003. |
| V2.1 R3 | July 21, 2004 | Pediatric Heart Surgery Mortality (IQI #10) Denominator (Exclusion, Heart Transplant) | Coding | Code (FY 2004) 37.5 “heart transplantation” was modified to require a fourth digit. As a result, new codes 37.51 “heart transplantation” and 37.52 “implantation of total replacement heart system” were added to the exclusions for pediatric heart surgery mortality. |
| V2.1 R3 | July 21, 2004 | Gastrointestinal Hemorrhage Mortality Rate (IQI #18) Denominator (Inclusion, Gastrointestinal Hemorrhage) | Coding | New code (FY 2004) 530.21 “ulcer of esophagus with bleeding” was added to the denominator definition. This change may result in a comparability issue with preceding years since 530.2 was not previously included in the definition of GI hemorrhage. |
| V2.1 R3 | July 21, 2004 | Pneumonia Mortality Rate (IQI #20) Denominator (Inclusion, Pneumonia) | Coding | New code (FY 2004) 480.3 “Pneumonia due to SARS-associated coronavirus” was added to the denominator definition for viral pneumonia. |
| V2.1 R3 | July 21, 2004 | Bilateral Cardiac Catheterization Rate (IQI #25) Denominator (Inclusion, Coronary Artery Disease) | Coding | New code (FY 2004) 414.07 “coronary atherosclerosis of bypass graft of transplanted heart” was added to the denominator definition for coronary artery disease. |

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|--------------------------------|------------------|---|------------------------|--|
| V2.1 R3 | July 21, 2004 | Hysterectomy Area Rate (IQI #28) Numerator (Inclusion, Hysterectomy) | Coding | New category (68.3: subtotal abdominal hysterectomy) and new codes (FY 2004) 68.31 “laparoscopic supracervical hysterectomy” and 68.39 “other subtotal abdominal hysterectomy” were added to the numerator definition for hysterectomy area rate. |
| V2.1 R3 | July 21, 2004 | Laminectomy Area Rate (IQI #29) Numerator (Inclusion, Laminectomy) | Coding | New codes (FY 2004) available to specify the number of vertebrae fused (81.62, 81.63 and 81.64) were added to the numerator for laminectomy area rate. These codes should appear when code 81.61 is used, since 81.61 includes a “code also” instruction. |
| V2.1 R3 | July 21, 2004 | Guide | Software/ Documents | <p>Implemented changes to IQI #3, Pediatric Heart Surgery Volume Indicator, both in its inclusion criteria and its exclusion criteria. Inclusion is now defined to be discharges with ICD-9-CM procedure codes for congenital heart disease (1P) in any field or non-specific heart surgery (2P) in any field with ICD-9-CM diagnosis of congenital heart disease (2D) in any field. Exclusions now include MDC 14 (pregnancy, childbirth and puerperium); patients with transcatheter interventions (either 3AP, 3BP, 3CP, 3DP, 3EP with 3D, or 3FP) as single cardiac procedures, performed without bypass (5P) but with catheterization (6P); patients with septal defects (4P) as single cardiac procedures without bypass (5P); heart transplant (7P); premature infants (4D) with PDA closure (3D and 3EP) as only cardiac procedure; age less than 30 days with PDA closure as only cardiac procedure; missing discharge disposition (DISP=missing); and transferring to another short-term hospital (DISP=2). These changes were the result of research by the original developers of this indicator¹, and are designed to increase the sensitivity and specificity of the indicator.</p> <p>Note: Due to the large number of changes to the pediatric heart surgery indicators, comparing results with past versions is cautioned.</p> <p>Implemented changes to IQI #10, Pediatric Heart Surgery Mortality Indicator, both in its inclusion criteria and its exclusion criteria. Inclusion is now defined to be discharges with ICD-9-CM procedure codes for congenital heart disease (1P) in any field or non-specific heart surgery (2P) in any field with ICD-9-CM diagnosis of congenital heart disease (2D) in any field. Exclusions now include MDC 14 (pregnancy, childbirth and puerperium); patients with</p> |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|------|-----------|------------------------|--|
| | | | | <p>patients with septal defects (4P) as single cardiac procedures without bypass (5P); heart transplant (7P); premature infants (4D) with PDA closure (3D and 3EP) as only cardiac procedure; age less than 30 days with PDA closure as only cardiac procedure; missing discharge disposition (DISP=missing); and transferring to another short-term hospital (DISP=2). These changes were the result of research by the original developers of this indicator (see footnote 1 Error! Bookmark not defined.), and are designed to increase the sensitivity and specificity of the indicator.</p> <p>Eliminated MDC 14 (pregnancy, childbirth, and puerperium) and MDC 15 (newborns and other neonates) from exclusion criteria for IQI #15, Acute Myocardial Infarction (AMI) Mortality Indicator. This change was made since these patients are at low risk for AMI and removing these patients brings the indicator into alignment with other national efforts. The estimated impact is low.</p> <p>Established a new indicator (IQI #32), AMI Mortality Indicator – Without Transfer Cases. Unlike the existing indicator for AMI mortality (IQI #15), it excludes patients transferring from another short-term hospital and patients with missing admission source. This indicator is closely related to the JCAHO indicator for AMI mortality² however it is NOT risk adjusted in the same manner as the JCAHO indicator and does not exclude hospice patients (due to inability to identify hospice patients in hospital discharge data).</p> <p>Implemented a change to IQI #21, Cesarean Section Delivery Rate to exclude patients with abnormal presentation, preterm delivery, fetal death, or multiple gestation. These changes create an indicator that closely mirrors indicators used by Healthy People 2010³</p> <p>Created a new indicator (IQI #33), Primary Cesarean Delivery Rate which closely mirrors the JCAHO measure for Cesarean Delivery⁴. This indicator excludes patients with abnormal presentation, preterm delivery, fetal death, multiple gestation, and patients with a prior Cesarean Section.</p> <p>Implemented a change to IQI #22, Vaginal Birth After Cesarean Section (VBAC), Uncomplicated to exclude patients with diagnoses describing abnormal presentation, preterm delivery, fetal death or multiple gestation.</p> <p>Created new indicator (IQI #34), Vaginal Birth After Cesarean Section (VBAC) All, which does not exclude patients with diagnoses of abnormal presentation, preterm delivery, fetal death, or multiple gestation.</p> |

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|--|------------------------|--|
| | | | | Implemented a change to IQI #13, Craniotomy Mortality Rate. Restructuring of the DRGs for craniotomy occurred in FY 2003. As a result, the including definition of craniotomy was revised to include both DRG 001 and DRG002 (Craniotomy with and without comorbidities and complications, >17 years), DRG 528 (Intracranial vascular procedure with principal diagnosis of hemorrhage), and DRG 529 and 530 (Ventricular shunt procedures with and without comorbidities and complications). To maintain comparability with previous years of data, patients with a principle diagnosis of head trauma are now excluded from this indicator. Empirical analyses demonstrate minimal impact of these changes for this indicator. |
| V2.1 R3 | July 21, 2004 | Software (SAS) | Software/ Documents | Implemented changes to all mortality indicators excluding cases for which the value for the variable “disposition of patient” (DISP) is missing, unknown or invalid. The SAS software is now consistent with the SPSS versions that have always excluded cases with missing, unknown, or invalid disposition. Inserted “IQ” in format names for age, sex and APR-DRG aggregations in SAS programs to distinguish these formats from similarly named formats used by other indicator software. |
| V2.1 R3 | September 4, 2003 | Pediatric Heart Surgery Volume (IQI 3) Numerator (congenital heart defect, 3D) | Coding | The new code (FY 2003) 747.83, “Persistent fetal circulation” was added to the definition of congenital heart defect (3D). |
| V2.1 R3 | September 4, 2003 | Pediatric Heart Surgery Mortality (IQI 10) Denominator (congenital heart defect, 3D) | Coding | The new code (FY 2003) 747.83, “Persistent fetal circulation” was added to the denominator exclusion definition of congenital heart defect (3D). |

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|--------------------------------|----------------------|--|------------------------|--|
| V2.1 R3 | July 21, 2004 | Software (SAS and SPSS) | Software/ Documents | <p>Implemented the option to aggregate all area-based indicators by Metropolitan Statistical Area (MSA) and County or just by County. Implemented all syntax changes required to implement the indicator modifications (noted above under Guide) and incorporated the related documentation in the Software manuals.</p> <p>County-based population files are now distributed with the SAS and SPSS software, and the names of the population files now have the letters “cty” in their third, fourth and fifth positions instead of the letters “pop”.</p> <p>Converted mean-centering routine for risk-adjustment to use population case- mix of APR-DRG as reference population for Age-Sex only risk-adjustment. This change resulting in the age-sex only risk adjustment scaling closer to the mean.</p> |
| V2.1 R3 | September 4, 2003 | Pediatric Heart Surgery Volume (IQI 3) Numerator (Pediatric heart surgery, #2P) | Coding | <p>The new code (FY 2003) 36.07, “Insertion of drug-eluting coronary artery stent(s) / endograft(s) was added to the including definition of pediatric heart surgery (#2P).</p> <p>The new code (FY 2003) 37.28 Intracardiac echocardiography ICE was added to the including definition of pediatric heart surgery (#2P).</p> <p>The new codes (FY 2003) 00.50 – 00.54, “implantation or replacement of transvenous lead” was added to the including definition of pediatric heart surgery (#2P).</p> |
| V2.1 R3 | September 4, 2003 | Pediatric Heart Surgery Mortality (IQI 10) Denominator (Pediatric heart surgery, #2P) | Coding | <p>The new code (FY 2003) 36.07, “Insertion of drug-eluting coronary artery stent(s) / endograft(s) was added to the including definition of pediatric heart surgery (#2P).</p> <p>The new code (FY 2003) 37.28 Intracardiac echocardiography ICE was added to the including definition of pediatric heart surgery (#2P).</p> <p>The new codes (FY 2003) 00.50 – 00.54, “implantation or replacement of transvenous lead” were added to the including definition of pediatric heart surgery (#2P).</p> |
| V2.1 R3 | September 4, 2003 | CHF Mortality Rate (IQI 16) Denominator (Congestive heart failure) | Coding | <p>The new codes (FY 2003), 428.20-3, “Systolic heart failure,” 428.30-3, “Diastolic heart failure,” and 428.40-3, “Combined systolic and diastolic heart failure” were added to the including definition of congestive heart failure.</p> |

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|--------------------------------|-------------------|--|------------------------|---|
| V2.1 R3 | September 4, 2003 | GI Hemorrhage Mortality Rate (IQI 18) Denominator (Gastrointestinal hemorrhage) | Coding | The new codes (FY 2003), 537.84, “Dieulafoy lesion (hemorrhagic) of stomach and duodenum” and 569.86, “Dieulafoy lesion (hemorrhagic) of intestine” were added to the including definition of gastrointestinal hemorrhage. |
| V2.1 R3 | September 4, 2003 | Bilateral Heart Catheterization Rate (IQI 25) Denominator (exclusion, valid indications) | Coding | New code (FY 2003) 747.83, “Persistent fetal circulation” was added to the denominator-exclusion for bilateral heart catheterization rate. New subcodes (FY 2003), 414.06, “Coronary atherosclerosis of coronary artery of transplanted heart” and 414.12, “Dissection of coronary artery,” were added to the denominator definition of Bilateral Heart Catheterization Rate. |
| V2.1 R3 | September 4, 2003 | Laminectomy Area Rate (IQI 29) Numerator (laminectomy and/or spinal fusion) | Coding | All codes in the new category (FY 2002), 81.3, “Refusion of spine” was added to the numerator definition of laminectomy and/or spinal fusion. New code (FY 2003) 81.61, “360 degree spinal fusion, single incision approach” was added to the numerator definition of laminectomy and/or spinal fusion. New code (FY 2003) 84.51, “insertion of interbody spinal fusion device,” was added to the numerator definition of laminectomy and/or spinal fusion. |
| V2.1 R3 | September 4, 2003 | Software (SAS and SPSS) and Guide | Software/ Documents | Congestive Heart Failure (CHF) Mortality Rate: The denominator exclusion of patients undergoing a cardiac procedure was removed from CHF Mortality Rate. This exclusion was unnecessary due to the use of APR-DRGs for risk adjustment and to provide consistency across indicators (e.g. AMI patients with these procedures are not excluded). Bilateral Heart Catheterization Rate: Codes 404.xx for hypertensive heart disease were added to the denominator exclusion. Pediatric Heart Surgery Volume and Mortality Rate: The code 36.3 was added to numerator including definition of pediatric heart surgery (#2P) to reflect coding before October 1, 1998. Mortality after Hip Replacement: The code 716.69 was deleted from the including definition of osteoarthritis (the fifth digit “9” indicating “multiple sites” is not valid for 716.6x). |

AHRQ Quality Indicators™

Inpatient Quality Indicators (IQI), Log of ICD-9-CM and DRG Coding Updates and Revisions to IQI Documentation and Software

| VERSION/ REVISION NUMBER | DATE | COMPONENT | NATURE OF CHANGE | CHANGES |
|--------------------------------|-------------------|-------------------------|------------------------|---|
| V2.1 R2 | September 4, 2003 | Software (SAS and SPSS) | Software/ Documents | All parameter text files were renamed to refer specifically to the IQI module (e.g., use of IQ in file name). These changes are also reflected in the software documentation. All parameter files were rerun using the updated software and Year 2000 HCUP SID data. Population files for 2000, and 2001 were re-estimated using the latest available census files. |
| V2.1 R2 | September 4, 2003 | Software (SPSS) | Software/ Documents | The treatment of missing data by SPSS was changed to mirror the treatment of missing data by SAS; specifically the software requires confirmation for the assignment of a poor outcome or negative event. For instance, in order to be assigned as a death, each case must actually be coded as a death. Missing data is considered neutral. Missing data for some elements results in the exclusion of that case from the denominator. For a few other elements, the case is retained. Table 5 of the Software Documentation lists the impact of missing data for each data element. |

¹Kathy Jenkins et al., Boston Children’s Hospital and Harvard University. See Center-specific differences in mortality: preliminary analyses using the Risk Adjustment in Congenital Heart Surgery (RACHS-1) method. J Thorac Cardiovasc Surg. 2002 Jul;124(1):97-104.

²<http://www.jcaho.org/pms/core+measures/information+on+final+specifications.htm>.

³<http://www.healthypeople.gov/Document/html/tracking/od16.htm#obstetcare>.

⁴<http://www.jcaho.org/pms/core+measures/information+on+final+specifications.htm>.

Appendices

Appendix A – Abdominal and Pelvic Surgery Procedure Codes as of February 2009

| | | | |
|------|--------------------------|------|--------------------------|
| 412 | SPLENOTOMY | 4464 | GASTROPEXY |
| 413 | MARROW & SPLEEN DX PROC* | 4465 | ESOPHAGOGASTROPLASTY |
| 4141 | SPLENIC CYST MARSUPIAL | 4466 | CREAT ESOPHAGASTR SPHINC |
| 4142 | EXC SPLENIC LESION/TISS | 4467 | LAP CREAT ESOPH SPHINCT |
| 4143 | PARTIAL SPLENECTOMY | 4468 | LAPAROSCOPI GASTROPLASTY |
| 415 | TOTAL SPLENECTOMY | 4469 | GASTRIC REPAIR NEC |
| 4193 | EXC OF ACCESSORY SPLEEN | 4491 | LIGATE GASTRIC VARICES |
| 4194 | SPLEEN TRANSPLANTATION | 4492 | INTRAOP GASTRIC MANIPUL |
| 4195 | REPAIR OF SPLEEN | 4495 | LAP GASTRIC RESTRIC PROC |
| 4199 | SPLEEN OPERATION NEC | 4496 | LAP REV GAST RESTRI PROC |
| 4240 | ESOPHAGECTOMY NOS | 4497 | LAP REM GAST RESTRIC DEV |
| 4241 | PARTIAL ESOPHAGECTOMY | 4499 | GASTRIC OPERATION NEC |
| 4242 | TOTAL ESOPHAGECTOMY | 4500 | INTESTINAL INCISION NOS |
| 4253 | THORAC SM BOWEL INTERPOS | 4501 | DUODENAL INCISION |
| 4254 | THORAC ESOPHAGOENTER NEC | 4502 | SMALL BOWEL INCISION NEC |
| 4255 | THORAC LG BOWEL INTERPOS | 4503 | LARGE BOWEL INCISION |
| 4256 | THORAC ESOPHAGOCOLOS NEC | 4511 | TRANSAB SM BOWEL ENDOSC |
| 4263 | STERN SM BOWEL INTERPOS | 4515 | OPEN SMALL BOWEL BIOPSY |
| 4264 | STERN ESOPHAGOENTER NEC | 4521 | TRANSAB LG BOWEL ENDOSC |
| 4265 | STERN LG BOWEL INTERPOS | 4526 | OPEN LARGE BOWEL BIOPSY |
| 4266 | STERN ESOPHAGOCOLOS NEC | 4531 | OTH EXCISE DUODENUM LES |
| 4291 | LIGATION ESOPH VARIX | 4532 | DESTRUCT DUODEN LES NEC |
| 430 | GASTROTOMY | 4533 | LOCAL EXCIS SM BOWEL NEC |
| 433 | PYLOROMYOTOMY | 4534 | DESTR SM BOWEL LES NEC |
| 4342 | LOCAL GASTR EXCISION NEC | 4541 | EXCISE LG INTESTINE LES |
| 4349 | LOCAL GASTR DESTRUCT NEC | 4549 | DESTRUC LG BOWEL LES NEC |
| 435 | PROXIMAL GASTRECTOMY | 4550 | INTEST SEG ISOLAT NOS |
| 436 | DISTAL GASTRECTOMY | 4551 | SM BOWEL SEGMENT ISOLAT |
| 437 | PART GASTREC W JEJ ANAST | 4552 | LG BOWEL SEGMENT ISOLAT |
| 4381 | PART GAST W JEJ TRANSPOS | 4561 | MULT SEG SM BOWEL EXCIS |
| 4389 | OPN/OTH PART GASTRECTOMY | 4562 | PART SM BOWEL RESECT NEC |
| 4391 | TOT GAST W INTES INTERPO | 4563 | TOTAL REMOVAL SM BOWEL |
| 4399 | TOTAL GASTRECTOMY NEC | 458 | TOT INTRA-ABD COLECTOMY# |
| 4400 | VAGOTOMY NOS | 4590 | INTESTINAL ANASTOM NOS |
| 4401 | TRUNCAL VAGOTOMY | 4591 | SM-TO-SM BOWEL ANASTOM |
| 4402 | HIGHLY SELECT VAGOTOMY | 4592 | SM BOWEL-RECT STUMP ANAS |
| 4403 | SELECTIVE VAGOTOMY NEC | 4593 | SMALL-TO-LARGE BOWEL NEC |
| 4411 | TRANSABDOMIN GASTROSCOPY | 4594 | LG-TO-LG BOWEL ANASTOM |
| 4415 | OPEN GASTRIC BIOPSY | 4595 | ANAL ANASTOMOSIS |
| 4421 | DILATE PYLORUS, INCISION | 4601 | SM BOWEL EXTERIORIZATION |
| 4429 | OTHER PYLOROPLASTY | 4603 | LG BOWEL EXTERIORIZATION |
| 4431 | HIGH GASTRIC BYPASS | 4610 | COLOSTOMY NOS |
| 4438 | LAP GASTROENTEROSTOMY | 4611 | TEMPORARY COLOSTOMY |
| 4439 | GASTROENTEROSTOMY NEC | 4613 | PERMANENT COLOSTOMY |
| 4440 | SUTURE PEPTIC ULCER NOS | 4614 | DELAY OPENING COLOSTOMY |
| 4441 | SUT GASTRIC ULCER SITE | 4620 | ILEOSTOMY NOS |
| 4442 | SUTURE DUODEN ULCER SITE | 4621 | TEMPORARY ILEOSTOMY |
| 445 | REVISION GASTRIC ANASTOM | 4622 | CONTINENT ILEOSTOMY |
| 4461 | SUTURE GASTRIC LACERAT | 4623 | PERMANENT ILEOSTOMY NEC |
| 4463 | CLOSE GASTRIC FISTUL NEC | 4640 | INTEST STOMA REVIS NOS |

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| | | | |
|------|---------------------------|------|--------------------------|
| 4641 | SM BOWEL STOMA REVISION | 5121 | OTH PART CHOLECYSTECTOMY |
| 4642 | PERICOLEOST HERNIA REPAIR | 5122 | CHOLECYSTECTOMY |
| 4643 | LG BOWEL STOMA REVIS NEC | 5123 | LAPAROSCOPIC CHOLECYSTEC |
| 4650 | INTEST STOMA CLOSURE NOS | 5124 | LAP PART CHOLECYSTECTOMY |
| 4651 | SM BOWEL STOMA CLOSURE | 5131 | GB-TO-HEPAT DUCT ANAST |
| 4652 | LG BOWEL STOMA CLOSURE | 5132 | GB-TO-INTESTINE ANASTOM |
| 4660 | INTESTINAL FIXATION NOS | 5133 | GB-TO-PANCREAS ANASTOM |
| 4661 | SM BOWEL-ABD WALL FIXAT | 5134 | GB-TO-STOMACH ANASTOMOS |
| 4662 | SMALL BOWEL FIXATION NEC | 5135 | GALLBLADDER ANASTOM NEC |
| 4663 | LG BOWEL-ABD WALL FIXAT | 5136 | CHOLEDOCHOENTEROSTOMY |
| 4664 | LARGE BOWEL FIXATION NEC | 5137 | HEPATIC DUCT-GI ANASTOM |
| 4672 | DUODENAL FISTULA CLOSURE | 5139 | BILE DUCT ANASTOMOS NEC |
| 4673 | SMALL BOWEL SUTURE NEC | 5141 | CDE FOR CALCULUS REMOV |
| 4674 | CLOSE SM BOWEL FIST NEC | 5142 | CDE FOR OBSTRUCTION NEC |
| 4675 | SUTURE LG BOWEL LACERAT | 5143 | CHOLEDOCHOHEPAT INTUBAT |
| 4676 | CLOSE LG BOWEL FISTULA | 5149 | INCIS OBSTR BILE DUC NEC |
| 4679 | REPAIR OF INTESTINE NEC | 5151 | COMMON DUCT EXPLORATION |
| 4680 | INTRA-AB BOWEL MANIP NOS | 5159 | BILE DUCT INCISION NEC |
| 4681 | INTRA-ABD SM BOWEL MANIP | 5161 | EXCIS CYST DUCT REMNANT |
| 4682 | INTRA-ABD LG BOWEL MANIP | 5162 | EXCIS AMPULLA OF VATER |
| 4691 | MYOTOMY OF SIGMOID COLON | 5163 | COMMON DUCT EXCIS NEC |
| 4692 | MYOTOMY OF COLON NEC | 5169 | BILE DUCT EXCISION NEC |
| 4693 | REVISE SM BOWEL ANASTOM | 5171 | SIMPLE SUT-COMMON DUCT |
| 4694 | REVISE LG BOWEL ANASTOM | 5172 | CHOLEDOCHOPLASTY |
| 4697 | TRANSPLANT OF INTESTINE | 5179 | BILE DUCT REPAIR NEC |
| 4699 | INTESTINAL OP NEC | 5181 | SPHINCTER OF ODDI DILAT |
| 4821 | TRANSAB PROCTOSIGMOIDOSC | 5182 | PANCREAT SPHINCTEROTOM |
| 4825 | OPEN RECTAL BIOPSY | 5183 | PANCREAT SPHINCTEROPLAS |
| 4841 | SOAVE SUBMUC RECT RESECT | 5189 | SPHINCT OF ODDI OP NEC |
| 4849 | PULL-THRU RECT RESEC NEC | 5191 | REPAIR GB LACERATION |
| 485 | ABD-PERINEAL RECT RESECT# | 5192 | CLOSURE CHOLECYSTOSTOMY |
| 4871 | SUTURE OF RECTAL LACER | 5193 | CLOS BILIARY FISTUL NEC |
| 4874 | RECTORECTOSTOMY | 5194 | REVIS BILE TRACT ANASTOM |
| 4875 | ABDOMINAL PROCTOPEXY | 5195 | REMOVE BILE DUCT PROSTH |
| 500 | HEPATOTOMY | 5199 | BILIARY TRACT OP NEC |
| 5012 | OPEN LIVER BIOPSY | 5201 | CATH DRAIN-PANCREAT CYST |
| 5014 | LAPAROSCOPIC LIVER BX | 5209 | PANCREATOTOMY NEC |
| 5019 | HEPATIC DX PROC NEC | 5212 | OPEN PANCREATIC BIOPSY |
| 5021 | MARSUPIALIZAT LIVER LES | 5219 | PANCREATIC DX PROC NEC |
| 5022 | PARTIAL HEPATECTOMY | 5222 | OTHER DESTRU PANCREA LES |
| 5023 | OPN ABLTN LIVER LES/TISS | 523 | PANCREAT CYST MARSUPIALI |
| 5025 | LAP ABLTN LIVER LES/TISS | 524 | INT DRAIN PANCREAT CYST |
| 5026 | ABLTN LIVER LES/TISS NEC | 5251 | PROXIMAL PANCREATECTOMY |
| 5029 | DESTRUC HEPATIC LES NEC | 5252 | DISTAL PANCREATECTOMY |
| 503 | HEPATIC LOBECTOMY | 5253 | RAD SUBTOT PANCREATECTOM |
| 504 | TOTAL HEPATECTOMY | 5259 | PARTIAL PANCREATECT NEC |
| 5051 | AUXILIARY LIVER TRANSPL | 526 | TOTAL PANCREATECTOMY |
| 5059 | LIVER TRANSPLANT NEC | 527 | RAD PANCREATICODUODENECT |
| 5061 | CLOSURE LIVER LACERAT | 528 | TRANSPLANT OF PANCREAS* |
| 5069 | LIVER REPAIR NEC | 5281 | REIMPLANT PANCREATIC TIS |
| 5102 | TROCAR CHOLECYSTOSTOMY | 5282 | PANCREATIC HOMOTRANSPLAN |
| 5103 | CHOLECYSTOSTOMY NEC | 5283 | PANCREATIC HETEROTRANSPL |
| 5104 | CHOLECYSTOTOMY NEC | 5292 | CANNULATION PANCREA DUC |
| 5113 | OPEN BILIARY TRACT BX | 5295 | PANCREATIC REPAIR NEC |
| 5119 | BILIARY TR DX PROC NEC | 5296 | PANCREATIC ANASTOMOSIS |

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| | | | |
|------|---------------------------|------|---------------------------|
| 5299 | PANCREATIC OPERATION NEC | 5671 | URIN DIVERSION TO BOWEL |
| 5300 | UNILAT ING HERN REP NOS | 5672 | REVIS URETEROENTEROSTOMY |
| 5301 | OPN REP DIR ING HERN NEC | 5900 | RETROPERIT DISSECT NOS |
| 5302 | OPN REP IND ING HERN NEC | 6501 | LAPAROSCOPIC OOPHOROTOMY |
| 5303 | OPN DIR ING HERN-GFT NEC | 6509 | OTHER OOPHOROTOMY |
| 5304 | OPN IND ING HERN-GFT NEC | 6512 | OVARIAN BIOPSY NEC |
| 5305 | ING HERNIA REP-GRAFT NOS | 6521 | OVARIAN CYST MARSUPIALIZ |
| 5310 | BILAT ING HERNIA REP NOS | 6522 | OVARIAN WEDGE RESECTION |
| 5311 | OPN BIL DIR ING HERN NEC | 6523 | LAP MARSUP OVARIAN CYST |
| 5312 | OPN BIL IND ING HERN NEC | 6524 | LAP WEDGE RESECT OVARY |
| 5313 | OPN BI DR/IN ING HRN NEC | 6525 | OTH LAP LOC EXC DEST OVA |
| 5314 | OPN BI DR ING HRN-GR NEC | 6529 | LOCAL DESTR OVA LES NEC |
| 5315 | OP BI IN ING HRN-GRF NEC | 6531 | LAP UNILAT OOPHORECTOMY |
| 5316 | OP BI DR/IN IG HR-GR NEC | 6539 | OTH UNILAT OOPHORECTOMY |
| 5317 | BIL ING HRN REP-GRFT NOS | 6541 | LAP UNI SALPINGO-OOPHOR |
| 5321 | UNIL FEMOR HRN REP-GRFT | 6549 | OTH UNI SALPINGO-OOPHOR |
| 5329 | UNIL FEMOR HERN REP NEC | 6551 | OTH REMOVE BOTH OVARIES |
| 5331 | BIL FEM HERN REPAIR-GRFT | 6552 | OTH REMOVE REMAIN OVARY |
| 5339 | BIL FEM HERN REPAIR NEC | 6553 | LAP REMOVE BOTH OVARIES |
| 5341 | OPN REP UMB HRN-GRFT NEC | 6554 | LAP REMOVE REMAIN OVARY |
| 5349 | OPEN REP UMBIL HERN NEC | 6561 | OTH REMOVE OVARIES/TUBES |
| 5351 | INCISIONAL HERNIA REPAIR | 6562 | OTH REMOVE REM OVA/TUBE |
| 5359 | ABD WALL HERN REPAIR NEC | 6563 | LAP REMOVE OVARIES/TUBES |
| 5361 | OPEN INCIS HERN-GRFT NEC | 6564 | LAP REMOVE REM OVA/TUBE |
| 5369 | OPN HERN ANT ABD-GRF NEC | 6571 | OTH SIMPLE SUTURE OVARY |
| 537 | ABD REPAIR-DIAPHR HERNIA# | 6572 | OTH REIMPLANT OF OVARY |
| 540 | ABDOMINAL WALL INCISION | 6573 | OTH SALPINGO-OOPHOROPLAS |
| 5411 | EXPLORATORY LAPAROTOMY | 6574 | LAP SIMPLE SUTURE OVARY |
| 5412 | REOPEN RECENT LAP SITE | 6575 | LAP REIMPLANT OF OVARY |
| 5419 | LAPAROTOMY NEC | 6576 | LAP SALPINGO-OOPHOROPLAS |
| 5421 | LAPAROSCOPY | 6579 | REPAIR OF OVARY NEC |
| 5422 | ABDOMINAL WALL BIOPSY | 6581 | LAP ADHESIOLYS OVA/TUBE |
| 5423 | PERITONEAL BIOPSY | 6589 | ADHESIOLYSIS OVARY/TUBE |
| 5429 | ABD REGION DX PROC NEC | 6592 | TRANSPLANTATION OF OVARY |
| 543 | DESTRUCT ABD WALL LESION | 6593 | MANUAL RUPT OVARIAN CYST |
| 544 | DESTRUCT PERITONEAL TISS | 6594 | OVARIAN DENERVATION |
| 5451 | LAP PERITON ADHESIOLYSIS | 6595 | OVARIAN TORSION RELEASE |
| 5459 | OTH PERITON ADHESIOLYSIS | 6599 | OVARIAN OPERATION NEC |
| 5461 | RECLOSE POST OP DISRUPT | 6601 | SALPINGOTOMY |
| 5462 | DELAYED CLOS ABD WOUND | 6602 | SALPINGOSTOMY |
| 5463 | ABD WALL SUTURE NEC | 6611 | FALLOPIAN TUBE BIOPSY |
| 5464 | PERITONEAL SUTURE | 6619 | FALLOP TUBE DX PROC NEC |
| 5471 | REPAIR OF GASTROSCHISIS | 6631 | BILAT TUBAL CRUSHING NEC |
| 5472 | ABDOMEN WALL REPAIR NEC | 6632 | BILAT TUBAL DIVISION NEC |
| 5473 | PERITONEAL REPAIR NEC | 6639 | BILAT TUBAL DESTRUCT NEC |
| 5474 | OMENTAL REPAIR NEC | 664 | TOTAL UNILAT SALPINGECT |
| 5475 | MESENTERIC REPAIR NEC | 6651 | REMOVE BOTH FALLOP TUBES |
| 5492 | REMOVE FB FROM PERITON | 6652 | REMOVE SOLITARY FAL TUBE |
| 5493 | CREATE CUTANPERITON FIST | 6661 | DESTROY FALLOP TUBE LES |
| 5494 | CREAT PERITONEOVAS SHUNT | 6662 | REMOV TUBE & ECTOP PREG |
| 5495 | PERITONEAL INCISION | 6663 | BILAT PART SALPINGECT NOS |
| 5651 | FORM CUTAN ILEOURETEROST | 6669 | PARTIAL SALPINGECTOM NEC |
| 5652 | REVIS CUTAN ILEOURETEROS | 6671 | SIMPL SUTURE FALLOP TUBE |
| 5661 | FORM CUTAN URETEROSTOMY | 6672 | SALPINGO-OOPHOROSTOMY |
| 5662 | REVIS CUTAN URETEROS NEC | 6673 | SALPINGO-SALPINGOSTOMY |

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| | | | |
|------|--------------------------|------|---------------------------|
| 6674 | SALPINGO-UTEROSTOMY | 6839 | SUBTOTL ABD HYST NEC/NOS |
| 6679 | FALLOP TUBE REPAIR NEC | 684 | TOTAL ABD HYSTERECTOMY# |
| 6692 | UNILAT FALLOP TUBE DESTR | 6841 | LAP TOTAL ABDOMINAL HYST |
| 6693 | IMPL FALLOP TUBE PROSTH | 6849 | TOTAL ABD HYST NEC/NOS |
| 6694 | REMOV FALLOP TUBE PROSTH | 686 | RADICAL ABD HYSTERECTOMY# |
| 6696 | FALLOPIAN TUBE DILATION | 6861 | LAP RADICAL ABDOMNL HYST |
| 6697 | BURY FIMBRIAE IN UTERUS | 6869 | RADICAL ABD HYST NEC/NOS |
| 6699 | FALLOPIAN TUBE OP NEC | 688 | PELVIC EVISCERATION |
| 680 | HYSTEROTOMY | 689 | HYSTERECTOMY NEC/NOS |
| 6813 | OPEN UTERINE BIOPSY | 6919 | DESTRUC UTER SUPPORT NEC |
| 6814 | OPEN UTERINE LIGAMENT BX | 6921 | INTERPOSIT OP UTERIN LIG |
| 6819 | UTERUS/ADNEX DX PROC NEC | 6922 | UTERINE SUSPENSION NEC |
| 6823 | ENDOMETRIAL ABLATION | 6923 | VAG REPAIR INVERS UTERUS |
| 6829 | UTERINE LES DESTRUCT NEC | 6929 | UTERUS/ADNEXA REPAIR NEC |
| 683 | SUBTOT ABD HYSTERECTOMY# | 693 | PARACERV UTERINE DENERV |
| 6831 | LAP SCERVIC HYSTERECTOMY | 6941 | SUTURE UTERINE LACERAT |

Appendix B – Diagnosis Codes for Indications for Right Heart Catheterization as of February 2009

| | | | |
|-------|--------------------------|-------|---------------------------|
| 4200 | AC PERICARDIT IN OTH DIS | 4250 | ENDOMYOCARDIAL FIBROSIS |
| 42090 | ACUTE PERICARDITIS NOS | 4251 | HYPERTR OBSTR CARDIOMYOP# |
| 42091 | AC IDIOPATH PERICARDITIS | 4252 | OBSC AFRIC CARDIOMYOPATH |
| 42099 | ACUTE PERICARDITIS NEC | 4253 | ENDOCARD FIBROELASTOSIS |
| 4210 | AC/SUBAC BACT ENDOCARD | 4254 | PRIM CARDIOMYOPATHY NEC |
| 4211 | AC ENDOCARDIT IN OTH DIS | 4255 | ALCOHOLIC CARDIOMYOPATHY |
| 4219 | AC/SUBAC ENDOCARDIT NOS | 4257 | METABOLIC CARDIOMYOPATHY |
| 4220 | AC MYOCARDIT IN OTH DIS | 4258 | CARDIOMYOPATH IN OTH DIS |
| 42290 | ACUTE MYOCARDITIS NOS | 4259 | SECOND CARDIOMYOPATH NOS |
| 42291 | IDIOPATHIC MYOCARDITIS | 4280 | CHF NOS |
| 42292 | SEPTIC MYOCARDITIS | 4281 | LEFT HEART FAILURE |
| 42293 | TOXIC MYOCARDITIS | 42820 | SYSTOLIC HRT FAILURE NOS |
| 42299 | ACUTE MYOCARDITIS NEC | 42821 | AC SYSTOLIC HRT FAILURE |
| 4230 | HEMOPERICARDIUM | 42822 | CHR SYSTOLIC HRT FAILURE |
| 4231 | ADHESIVE PERICARDITIS | 42823 | AC ON CHR SYST HRT FAIL |
| 4232 | CONSTRUCTIV PERICARDITIS | 42830 | DIASTOLC HRT FAILURE NOS |
| 4233 | CARDIAC TAMPONADE | 42831 | AC DIASTOLIC HRT FAILURE |
| 4238 | PERICARDIAL DISEASE NEC | 42832 | CHR DIASTOLIC HRT FAIL |
| 4239 | PERICARDIAL DISEASE NOS | 42833 | AC ON CHR DIAST HRT FAIL |
| 4240 | MITRAL VALVE DISORDER | 42840 | SYST/DIAST HRT FAIL NOS |
| 4241 | AORTIC VALVE DISORDER | 42841 | AC SYST/DIASTOL HRT FAIL |
| 4242 | NONRHEUM TRICUSP VAL DIS | 42842 | CHR SYST/DIASTL HRT FAIL |
| 42490 | ENDOCARDITIS NOS | 42843 | AC/CHR SYST/DIA HRT FAIL |
| 42491 | ENDOCARDITIS IN OTH DIS | 4289 | HEART FAILURE NOS |
| 42499 | ENDOCARDITIS NEC | | |