



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

**Prepared for:**

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## Log of ICD-9-CM and DRG Coding Updates and Revisions to IQI Documentation and Software

The following table summarizes the revisions made to the Inpatient Quality Indicators (IQI) software, software documentation and the technical specification documents since the original release of the software and documents in June 2002. It also reflects changes to indicator specifications based on updates to ICD-9-CM and MS-DRG codes through Fiscal Year 2012 (effective October 1, 2011) and incorporates coding updates that were implemented in all 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 into three types:

- 1) fiscal year (FY) coding change: occurs because of coding changes to the most recent fiscal year codes dictated by the Centers for Medicare and Medicaid Services,
- 2) specification/calculation change: may impact the measure result that is something other than the most recent fiscal year coding change, and
- 3) software/documentation change: alteration to the software code to run the results as the measure is specified in the most effective manner 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 and DRG codes valid from October 1, 1994 through September 30, 2012.

Version/ Revision Number	Date	Component	Nature of Change (Coding vs. Software/ Documents)	Changes
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**AHRQ QI, Inpatient Quality Indicators (IQI),  
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Version/ Revision Number	Date	Component	Nature of Change (Coding vs. Software/ Documents)	Changes
V4.4	March 2012	All Area IQI	Specification/Calculation	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 ENDOVASC OCCLS VESSEL 3978 ENDOVASC IMPLN GRFT AORTA
V4.4	March 2012	Abdominal Aortic Aneurysm Repair Mortality Rate (IQI 11)	Fiscal Year Coding	Add numerator codes:  3977 TEMP ENDOVASC OCCLS 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

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V4.4	March 2012	Bilateral Cardiac Catheterization Rate (IQI 25)	Fiscal Year Coding	1. Add numerator exclusion codes:  41513 SADDLE EMBOL PULMON ART 42511 HYPRTROPHC OBST CARDIOMY 42518 OTH HYPRTROPHIC CARDIOMY 74731 PULMON ART COARCT/ATRES  2. 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/Documentation	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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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 in 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.

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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.
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 $\leq 1.0$ 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 $\leq 1.0$ 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 = $(2 * \text{ratio}) - \text{lower confidence bound}$ .
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.

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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.
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/ Documents	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/ Documents	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/ Documents	Surgical DRG: Added numerator inclusion codes 014 and 015 which were previously assigned to 009.
V4.3	June 30, 2011	Guide	Software/ Documents	Revised and updated all sections of the guide document to reflect current state of indicators, software and body of evidence.



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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
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)

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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)
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
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: 482.42 Methicillin resistant pneumonia due to Staphylococcus aureus

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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

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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 heriorrhaphy 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

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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 45.83 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

Version/ Revision Number	Date	Component	Nature of Change (Coding vs. Software/ Documents)	Changes
V4.0	February 20, 2009	Esophageal Resection Volume (IQI 1) Denominator (Inclusion, esophageal resection)	Indicator Specification Change	<p>1. 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: 150.0 Malignant neoplasm of esophagus, cervical 150.1 Malignant neoplasm of esophagus, thoracic 150.2 Malignant neoplasm of esophagus, abdominal 150.3 Malignant neoplasm of esophagus, upper third of 150.4 Malignant neoplasm of esophagus, middle third of 150.5 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>2. Add diagnosis code to denominator inclusion criteria for esophageal resection (\$PRESOPD)</p> <p>Add code: 151.0 Malignant neoplasm of stomach, cardia</p>

Version/ Revision Number	Date	Component	Nature of Change (Coding vs. Software/ Documents)	Changes
V4.0	February 20, 2009	Esophageal Resection Mortality (IQI 8) Denominator (Inclusion, esophageal resection)	Indicator Specification Change	<p>1. 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: 150.0 Malignant neoplasm of esophagus, cervical 150.1 Malignant neoplasm of esophagus, thoracic 150.2 Malignant neoplasm of esophagus, abdominal 150.3 Malignant neoplasm of esophagus, upper third of 150.4 Malignant neoplasm of esophagus, middle third of 150.5 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>2. Add diagnosis code to denominator inclusion criteria for esophageal resection (\$PRESOPD)</p> <p>Add code: 151.0 Malignant neoplasm of stomach, cardia</p>

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V4.0	February 20, 2009	Craniotomy Mortality (IQI 13) 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: 020 Intracranial vascular procedures with PDX hemorrhage w MCC 021 Intracranial vascular procedures with PDX hemorrhage w CC 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/o MCC 025 Craniotomy & endovascular intracranial procedures w MCC 026 Craniotomy & endovascular intracranial procedures w CC 027 Craniotomy & endovascular intracranial procedures w/o CC/MCC 031 Ventricular shunt procedures with MCC 032 Ventricular shunt procedures w CC 033 Ventricular shunt procedures w/o CC/MCC
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	Hip Fracture Mortality (IQI 19) Denominator (Exclusion, diagnosis of periprosthetic fracture)	Indicator Specification Change	Add denominator exclusion for diagnosis of periprosthetic fracture (\$MTHIP2D)  Add code: 996.44 Mechanical complication of internal orthopedic device, implant, and graft, peri-prosthetic fracture around prosthetic joint



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V4.0	February 20, 2009	Cesarean Section Delivery (IQI 21) 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	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	VBAC (IQI 22) Numerator (Inclusion, discharges after 2007Q4)	Indicator Specification Change	Add numerator inclusion criteria for MS-DRGs for discharges after 2007Q4 (effective October 1, 2007)  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 775 Vaginal delivery w/o complicating diagnoses
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.

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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

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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:            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            197.6 Secondary malignant neoplasm of respiratory and digestive systems, retroperitoneum and peritoneum</p>
V4.0	February 20, 2009	Bilateral Catheterization (IQI 25) Denominator (Exclusion, indications for right heart catheterization)	Indicator Specification Change	<p>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.</p>

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V3.2	March 10, 2008	Bilateral Cardiac Catheterization Rate (IQI 25) Numerator (Inclusion, indication)	Coding	Added new code 415.12 SEPTIC PULMONARY EMBOLISM
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 MSXIQ31.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%

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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> .
V3.1	March 12, 2007	Software (SAS and Windows)	Software/ Documents	<ol style="list-style-type: none"> <li>1. 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.</li> <li>2. 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</li> </ol>
V 3.1	March 12, 2007	Software (SAS and Windows) and Documentation	Software/ Documents	<ol style="list-style-type: none"> <li>1. Added capability to apply weight value to each discharge.</li> <li>2. Added data element DISCWT to hold weight to assign to discharge.</li> <li>3. Added an option to incorporate the Present on Admission (POA) indicator into risk adjustment and</li> <li>4. Added Data Elements DXATADMIT1 – DXATADMIT30 to indicate whether the corresponding diagnosis (i.e., DX1 – DX30) was Present on Admission.</li> </ol>
V 3.1	March 12, 2007	SAS Software and Documentation	Software/ Documents	Added alternative POA parameter files of risk-adjustment covariates and population rates using 2002-2004 SID data from California and New York.

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V3.1	March 12, 2007	Software (SAS and Windows), and Covariates document	Software/ Documents	<ol style="list-style-type: none"> <li>1. 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.</li> <li>2. 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).</li> <li>3. Updated Covariates document to include the POA coefficients.</li> </ol>
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

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V3.0	February 20, 2006	Guide	Software/ Documents	<ol style="list-style-type: none"> <li>1. Moved Appendix A into new document <i>Inpatient Quality Indicators Technical Specifications</i>.</li> <li>2. Removed Appendix B.</li> <li>3. Added new section "Using Different Types of QI Rates."</li> <li>4. Added explanation of changes to area definitions and new stratification options.</li> <li>5. Changed "MSA" to "Metro Area" throughout the document.</li> </ol>
V3.0	February 20, 2006	Guide, Software Documentation, and Technical Specification	Software/ Documents	<ol style="list-style-type: none"> <li>1. Removed Appendices that were copies of Change Log and Indicator Changes documents.</li> <li>2. Added Appendix of Links to all IQI documents and additional resources.</li> </ol>

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V3.0	February 20, 2006	Software (SAS and SPSS), Software Documentation, Guide, and Technical Specifications	Software/ Documents	<ol style="list-style-type: none"> <li>1. Dropped pediatric heart surgery indicators IQI #3 (volume) and IQI #10 (mortality), which are being moved into the new Pediatric Quality Indicators module.</li> <li>3. Revised multiple indicators to exclude pediatric populations (age less than 18). Specifically, IQIs #1-2, 4-9, 11, 14, 23, 25-27, and 31.</li> <li>4. 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).</li> <li>5. Dropped esophageal cancer diagnosis codes from the inclusion criteria for IQI #1 (Esophageal Resection Volume).</li> <li>6. Dropped pancreatic cancer diagnosis codes from the inclusion criteria IQI #2 (Pancreatic Resection Volume).</li> <li>7. 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).</li> <li>8. Dropped procedure code 36.06 from inclusion criteria for IQI #6 (PTCA Volume), IQI #27 (PTCA Utilization) and IQI #30 (PTCA Mortality).</li> <li>9. Changed references from 3M APR-DRG Version 15.0 to Version 20.0.</li> </ol>
V3.0	February 20, 2006	Software Documentation (SAS and SPSS)	Software/ Documents	<ol style="list-style-type: none"> <li>1. Amended Table 2 to add variables for expected, lower and upper CI levels, and standard error of smoothed rate.</li> <li>2. Amended Table 3 to include the new 1995-2006 census data (POP95TO06.TXT).</li> <li>3. Removed section "Interpreting the Results".</li> <li>4. Replaced example printouts with tables explaining contents of columns in printouts.</li> </ol>



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V3.0	February 20, 2006	Software (SAS and SPSS)	Software/ Documents	<ol style="list-style-type: none"> <li>1. Added the 1995-2006 Census data (e.g., POP95TO06.TXT).</li> <li>2. Updated the covariates to 3M APR-DRG Version 20.0 (i.e., COVIQP30.TXT).</li> <li>3. Changed the computation of the risk-adjusted rate to use a proportional formula for indirect standardization.</li> <li>4. Added a computation of exact confidence limits.</li> <li>5. Changed name of data element HOSPSTCO to PSTCO.</li> <li>6. Added parameter POPYEAR to specify year for Census data.</li> </ol>
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	<p>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.</p> <p>Expected impact on rate: negligible</p>

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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	Guide	Software/ Documents	<ol style="list-style-type: none"> <li>1. Corrected the low volume threshold (10) for AAA mortality (IQI #4) in Table 2.</li> <li>2. Updated the provider, area and population rates in Table 2 and the detailed evidence section using data from the 2002 HCUP SID files.</li> <li>3. In the detailed evidence section, added a cross reference from each indicator description to the indicator's detailed definition in Appendix A.</li> <li>4. Included Appendix A titles of detailed definitions in the Table of Contents.</li> </ol>

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V2.1 R4	December 22, 2004	Software (SAS and SPSS)	Software/ Documents	<ol style="list-style-type: none"> <li>1. Added an explicit age inclusion (age &gt;=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).</li> <li>2. 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.</li> <li>3. 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).</li> </ol>

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V2.1 R4	December 22, 2004	Software Documentation (SAS and SPSS)	Software/ Documents	<ol style="list-style-type: none"> <li>1. 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.</li> <li>2. Added optional data elements YEAR (year of patient discharge) and DQTR (calendar quarter of patient discharge) to Table 4.</li> <li>3. Revised text to reflect that calculation of expected rates is now incorporated.</li> <li>4. Updated flowchart (Figure 1) to eliminate the parameter file MNSIQP00.TXT and include "expected" in the description of the rates calculated.</li> </ol>
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.

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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.
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.

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V2.1 R3	July 21, 2004	Guide	Software/ Documents	<p>1. 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 indicator<sup>1</sup>, and are designed to increase the sensitivity and specificity of the indicator.</p> <p><b>Note:</b> Due to the large number of changes to the pediatric heart surgery indicators, comparing results with past versions is cautioned.</p>

<sup>1</sup> Kathy 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.

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				<p>2. 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 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 indicator (see footnote 1), and are designed to increase the sensitivity and specificity of the indicator.</p> <p>3. 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>4. 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 mortality<sup>2</sup> 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>

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



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				<p>5. 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 2010<sup>3</sup>.</p> <p>6. Created a new indicator (IQI #33), Primary Cesarean Delivery Rate which closely mirrors the JCAHO measure for Cesarean Delivery<sup>4</sup>. This indicator excludes patients with abnormal presentation, preterm delivery, fetal death, multiple gestation, and patients with a prior Cesarean Section.</p> <p>7. 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>8. 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> <p>9. 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 DRG 002 (Craniotomy with and without comorbidities and complications, &gt;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.</p>

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V2.1 R3	July 21, 2004	Software (SAS and SPSS)	Software/ Documents	<ol style="list-style-type: none"> <li>1. Implemented the option to aggregate all area-based indicators by Metropolitan Statistical Area (MSA) and County or just by County.</li> <li>2. Implemented all syntax changes required to implement the indicator modifications (noted above under Guide) and incorporated the related documentation in the Software manuals.</li> <li>3. 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”.</li> <li>4. 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.</li> </ol>
V2.1 R3	July 21, 2004	Software (SAS)	Software/ Documents	<ol style="list-style-type: none"> <li>1. 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.</li> <li>2. 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.</li> </ol>
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).

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

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

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V2.1 R3	September 4, 2003	Pediatric Heart Surgery Volume (IQI 3) Numerator (Pediatric heart surgery, #2P)	Coding	<ol style="list-style-type: none"> <li>1. 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).</li> <li>2. The new code (FY 2003) 37.28 Intracardiac echocardiography ICE was added to the including definition of pediatric heart surgery (#2P).</li> <li>3. 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).</li> </ol>
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).
V2.1 R3	September 4, 2003	Pediatric Heart Surgery Mortality (IQI 10) Denominator (Pediatric heart surgery, #2P)	Coding	<ol style="list-style-type: none"> <li>1. 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).</li> <li>2. The new code (FY 2003) 37.28 Intracardiac echocardiography ICE was added to the including definition of pediatric heart surgery (#2P).</li> <li>3. 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).</li> </ol>
V2.1 R3	September 4, 2003	CHF Mortality Rate (IQI 16) Denominator (Congestive heart failure)	Coding	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.

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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	<ol style="list-style-type: none"> <li>1. New code (FY 2003) 747.83, "Persistent fetal circulation" was added to the denominator-exclusion for bilateral heart catheterization rate.</li> <li>2. 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.</li> </ol>
V2.1 R3	September 4, 2003	Laminectomy Area Rate (IQI 29) Numerator (laminectomy and/or spinal fusion)	Coding	<ol style="list-style-type: none"> <li>1. 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.</li> <li>2. 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.</li> <li>3. New code (FY 2003) 84.51, "insertion of interbody spinal fusion device," was added to the numerator definition of laminectomy and/or spinal fusion.</li> </ol>

**AHRQ QI, Inpatient Quality Indicators (IQI),  
Log of ICD-9-CM and DRG Coding Updates and Revisions to IQI Documentation and Software**  
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Version/ Revision Number	Date	Component	Nature of Change (Coding vs. Software/ Documents)	Changes
V2.1 R3	September 4, 2003	Software (SAS and SPSS) and Guide	Software/ Documents	<ol style="list-style-type: none"> <li>1. 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).</li> <li>2. Bilateral Heart Catheterization Rate: Codes 404.xx for hypertensive heart disease were added to the denominator exclusion.</li> <li>3. 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.</li> <li>4. 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).</li> </ol>
V2.1 R2	September 4, 2003	Software (SAS and SPSS)	Software/ Documents	<ol style="list-style-type: none"> <li>1. 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.</li> <li>2. All parameter files were rerun using the updated software and Year 2000 HCUP SID data.</li> <li>3. Population files for 2000, and 2001 were re-estimated using the latest available census files.</li> </ol>

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Version/ Revision Number	Date	Component	Nature of Change (Coding vs. Software/ Documents)	Changes
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.

## Appendix

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

41.2 SPLENOTOMY  
41.3 OPEN BIOPSY OF SPLEEN  
41.41 MARSUPIALIZATION OF SPLENIC CYST  
41.42 EXCISION OF LESION OR TISSUE OF SPLEEN  
41.43 PARTIAL SPLENECTOMY  
41.5 TOTAL SPLENECTOMY  
41.93 EXCISION OF ACCESSORY SPLEEN  
41.94 TRANSPLANTATION OF SPLEEN  
41.95 REPAIR AND PLASTIC OPERATIONS ON SPLEEN  
41.99 OTHER OPERATIONS ON SPLEEN  
42.40 ESOPHAGECTOMY, NOS  
42.41 PARTIAL ESOPHAGECTOMY (HAS 1 CASE\_  
42.42 TOTAL ESOPHAGECTOMY (HASE 1 CASE)  
42.53 INTRATHORACIC ESOPHAGEAL ANASTOMOSIS W/  
INTERPOSITION OF SMALL BOWEL  
42.54 OTHER INTRATHORACIC ESOPHAGOENTEROSTOMY  
42.55 INTRATHORACIC ESOPHAGEAL ANASTOMOSIS W/  
INTERPOSITION OF COLON  
42.56 OTHER INTRATHORACIC ESOPHAGOCOLOSTOMY  
42.63 ANTESTERNAL ESOPHAGEAL ANASTOMOSIS W/  
INTERPOSITION OF SMALL BOWEL  
42.64 OTHER ANTESTERNAL ESOPHAGOENTEROSTOMY  
42.65 ANTESTERNAL ESOPHAGEAL ANASTOMOSIS W/  
INTERPOSITION OF COLON  
42.66 OTHER ANTESTERNAL ESOPHAGOCOLOSTOMY  
42.91 LIGATION OF ESOPHAGEAL VARICES  
43.0 GASTROTOMY  
43.3 PYLOROMYOTOMY  
43.42 LOCAL EXCISION OF OTHER LESION OR TISSUE OF  
STOMACH (HAS 10 CASES)  
43.49 OTHER DESTRUCTION OF LESION OR TISSUE OF  
STOMACH (HAS 1 CASE)  
43.5 PARTIAL GASTRECTOMY W/ ANASTOMOSIS TO  
ESOPHAGUS  
43.6 PARTIAL GASTRECTOMY W/ ANASTOMOSIS TO  
DUODENUM  
43.7 PARTIAL GASTRECTOMY W/ ANASTOMOSIS TO JEJUNUM  
43.81 PARTIAL GASTRECTOMY W/ JEJUNA TRANSPOSITION  
43.89 OTHER PARTIAL GASTRECTOMY  
43.91 TOTAL GASTRECTOMY W/ INTESTINAL INTERPOSITION  
43.99 OTHER TOTAL GASTRECTOMY  
44.00 VAGOTOMY, NOS  
44.01 TRUNCAL VAGOTOMY (HAS ONE CASE)  
44.02 HIGHLY SELECTIVE VAGOTOMY  
44.03 OTHER SELECTIVE VAGOTOMY  
44.11 TRANSABDOMINAL GASTROSCOPY  
44.15 OPEN BIOPSY OF STOMACH (HAS ONE CASE)  
44.21 DILATION OF PYLORUS BY INCISION  
44.29 OTHER PYLOROPLASTY HAS 6 CASES  
44.31 HIGH GASTRIC BYPASS HAS 1 CASE  
44.38 LAPAROSCOPIC GASTROENTEROSTOMY  
44.39 OTHER GASTROENTEROSTOMY  
44.40 SUTURE OF PEPTIC ULCER, NOS  
44.41 SUTURE OF GASTRIC ULCER SITE  
44.42 SUTURE OF DUODENAL ULCER SITE  
44.5 REVISION OF GASTRIC ANASTOMOSIS  
44.61 SUTURE OF LACERATION OF STOMACH  
44.63 CLOSURE OF OTHER GASTRIC FISTULA HAS 14 CASES  
44.64 GASTROPEXY  
44.65 ESOPHAGOGASTROPLASTY  
44.66 OTHER PROCEDURES FOR CREATION OF  
ESOPHAGOGASTRIC SPHINCTERIC COMPETENCE  
44.67 LAPAROSCOPIC PROCEDURES FOR CREATION OF  
ESOPHAGOGASTRIC SPHINCTERIC COMPETENCE  
44.68 LAPAROSCOPIC GASTROPLASTY  
44.69 OTHER REPAIR OF STOMACH  
44.91 LIGATION OF GASTRIC VARICES  
44.92 INTRAOPERATIVE MANIPULATION OF STOMACH



44.95 LAPAROSCOPIC GASTRIC RESTRICTIVE PROCEDURE  
44.96 LAPAROSCOPIC REVISION OF GASTRIC RESTRICTIVE PROCEDURE  
44.97 LAPAROSCOPIC REVISION OF GASTRIC RESTRICTIVE DEVICES  
44.99 GASTRIC OPERATION NEC (OCT 04)  
45.00 INCISION OF INTESTINE, NOS  
45.01 INCISION OF DUODENUM  
45.02 OTHER INCISION OF SMALL INTESTINE  
45.03 INCISION OF LARGE INTESTINE  
45.11 TRANSABDOMINAL ENDOSCOPY  
45.15 OPEN BIOPSY OF SMALL INTESTINE  
45.21 TRANSABDOMINAL ENDOSCOPY OF LARGE INTESTINE  
45.26 OPEN BIOPSY OF LARGE INTESTINE  
45.31 OTHER LOCAL EXCISION OF LESION OF DUODENUM  
45.32 OTHER DESTRUCTION OF LESION OF DUODENUM  
45.33 LOCAL EXCISION OF LESION OR TISSUE OF SMALL INTESTINE, EXCEPT DUODENUM  
45.34 OTHER DESTRUCTION OF LESION OF SMALL INTESTINE, EXCEPT DUODENUM  
45.41 EXCISION OF LESION OR TISSUE OF LARGE INTESTINE  
45.49 OTHER DESTRUCTION OF LESION OF LARGE INTESTINE  
45.50 ISOLATION OF INTESTINAL SEGMENT, NOS  
45.51 ISOLATION OF SEGMENT OF SMALL INTESTINE  
45.52 ISOLATION OF SEGMENT OF LARGE INTESTINE  
45.61 MULTIPLE SEGMENTAL RESECTION OF SMALL INTESTINE  
45.62 OTHER PARTIAL RESECTION OF SMALL INTESTINE  
45.63 TOTAL REMOVAL OF SMALL INTESTINE  
45.8 TOTAL INTRA-ABDOMINAL COLECTOMY  
45.90 INTESTINAL ANASTOMOSIS, NOS  
45.91 SMALL-TO-SMALL INTESTINAL ANASTOMOSIS  
45.92 ANASTOMOSIS OF SMALL INTESTINE TO RECTAL STUMP  
45.93 OTHER SMALL-TO-LARGE INTESTINAL ANASTOMOSIS  
45.94 LARGE-TO-LARGE INTESTINAL ANASTOMOSIS  
45.95 ANASTOMOSIS TO ANUS  
46.01 EXTERIORIZATION OF SMALL INTESTINE  
46.03 EXTERIORIZATION OF LARGE INTESTINE  
46.10 COLOSTOMY, NOS  
46.11 TEMPORARY COLOSTOMY  
46.13 PERMANENT COLOSTOMY  
46.14 DELAYED OPENING OF COLOSTOMY  
46.20 ILEOSTOMY, NOS  
46.21 TEMPORARY ILESOSTOMY  
46.22 CONTINENT ILEOSTOMY  
46.23 OTHER PERMANENT ILEOSTOMY  
46.40 REVISION OF INTESTINA STOMA, NOS  
46.41 REVISION OF STOMA OF SMALL INTESTINE  
46.42 REPAIR OF PERICOLOSTOMY HERNIA  
46.43 OTHER REVISION OF STOMA OF LARGE INTESTINE  
46.50 CLOSURE OF INTESTINAL STOMA, NOT OTHERWISE SPECIFIED  
46.51 CLOSURE OF STOMA OF SMALL INTESTINE  
46.52 CLOSURE OF STOMA OF LARGE INTESTINE  
46.60 FIXATION OF INTESTINE, NOS  
46.61 FIXATION OF SMALL INTESTINE TO ABDOMINAL WALL  
46.62 OTHER FIXATION OF SMALL INTESTINE  
46.63 FIXATION OF LARGE INTESTINE TO ABDOMINAL WALL  
46.64 OTHER FIXATION OF LARGE INTESTINE  
46.72 CLOSURE OF FISTULA OF DUODENUM  
46.73 SUTURE OF LACERATION OF SMALL INTESTINE, EXCEPT DUODENUM  
46.74 CLOSURE OF FISTULA OF SMALL INTESTINE, EXCEPT DUODENUM  
46.75 SUTURE OF LACERATION OF LARGE INTESTINE  
46.76 CLOSURE OF FISTULA OF LARGE INTESTINE  
46.79 OTHER REPAIR OF INTESTINE  
46.80 INTRA-ABDOMINAL MANIPULATION OF INTESTINE, NOS  
46.81 INTRA-ABDOMINAL MANIPULATION OF SMALL INTESTINE  
46.82 INTRA-ABDOMINAL MANIPULATION OF LARGE INTESTINE  
46.91 MYOTOMY OF SIGMOID COLON  
46.92 MYOTOMY OF OTHER PARTS OF COLON  
46.93 REVISION OF ANASTOMOSIS OF SMALL INTESTINE  
46.94 REVISION OF ANASTOMOSIS OF LARGE INTESTINE  
46.97 TRANSPLANT OF INTESTINE  
46.99 OTHER OPERATIONS ON INTESTINES  
48.21 TRANSABDOMINAL PROCTOSIGMOIDOSCOPY

48.25 OPEN BIOPSY OF RECTUM  
48.41 SUBMUCOSAL RESECTION OF RECTUM  
48.49 OTHER PULL-THROUGH RESECTION OF RECTUM \\  
48.5 ABDOMINOPERINEAL RESECTION OF RECTUM  
48.71 SUTURE OF LACERATION OF RECTUM  
48.74 RECTORECTOSTOMY  
48.75 ABDOMINAL PROCTOPEXY  
50.0 HEPATOTOMY  
50.12 OPEN BIOPSY OF LIVER  
50.14 LAPAROSCOPIC LIVER BIOPSY  
50.19 OTHER DIAGNOSTIC PROCEDURES ON LIVER  
50.21 MARSUPIALIZATION OF LESION OF LIVER  
50.22 PARTIAL HEPATECTOMY HAS 3 CASES  
50.23 OPN ABLTN LIVER LES/TISS OCT06-  
50.25 LAPAROSCOPIC ABLATION OF LIVER LESION OR  
TISSUE  
50.26 ABLTN LIVER LES/TISS NEC OCT06-  
50.29 OTHER DESTRUCTION OF LESION OF LIVER HAS 2  
CASES  
50.3 LOBECTOMY OF LIVER  
50.4 TOTAL HEPATECTOMY  
50.51 AUXILIARY LIVER TRANSPLANT  
50.59 OTHER TRANSPLANT OF LIVER  
50.61 CLOSURE OF LACERATION OF LIVER  
50.69 OTHER REPAIR OF LIVER  
51.02 TROCAR CHOLECYSTOSTOMY  
51.03 OTHER CHOLECYSTOSTOMY  
51.04 OTHER CHOLECYSTOTOMY  
51.13 OPEN BIOPSY OF GALLBLADDER OR BILE DUCTS  
51.19 OTHER DIAGNOSTIC PROCEDURES ON BILIARY TRACT  
51.21 OTHER PARTIAL CHOLECYSTECTOMY  
51.22 CHOLECYSTECTOMY  
51.23 LAPAROSCOPIC CHOLECYSTECTOMY SE 51.22 WITH 116  
CASES, THIS ONE HAS 7 CASES  
51.24 LAPAROSCOPIC PARTIAL CHOLECYSTECTOMY  
51.31 ANASTOMOSIS OF GALLBLADDER TO HEPATIC DUCTS  
51.32 ANASTOMOSIS OF GALLBLADDER TO INTESTINE  
51.33 ANASTOMOSIS OF GALLBLADDER TO PANCREAS  
51.34 ANASTOMOSIS OF GALLBLADDER TO STOMACH

51.35 OTHER GALLBLADDER ANASTOMOSIS  
51.36 CHOLEDOCHOENTEROSTOMY  
51.37 ANASTOMOSIS OF HEPATIC DUCT TO  
GASTROINTESTINAL TRACT  
51.39 OTHER BILE DUCT ANASTOMOSIS  
51.41 COMMON DUCT EXPLORATION FOR REMOVAL OF  
CALCULUS  
51.42 COMMON DUCT EXPLORATION FOR RELIEF OF OTHER  
OBSTRUCTION  
51.43 INSERTION OF CHOLEDOCHOHEPATIC TUBE FOR  
DECOMPRESSION  
51.49 INCISION OF OTHER BILE DUCTS FOR RELIEF OF  
OBSTRUCTION  
51.51 EXPLORATION OF COMMON DUCT  
51.59 INCISION OF OTHER BILE DUCT  
51.61 EXCISION OF CYSTIC DUCT REMNANT  
51.62 EXCISION OF AMPULLA OF VATER (WITH  
REIMPLANTATION OF COMMON DUCT)  
51.63 OTHER EXCISION OF COMMON DUCT  
51.69 EXCISION OF OTHER BILE DUCT  
51.71 SIMPLE SUTURE OF COMMON BILE DUCT  
51.72 CHOLEDOCHOPLASTY  
51.79 REPAIR OF OTHER BILE DUCTS  
51.81 DILATION OF SPHINCTER OF ODDI  
51.82 PANCREATIC SPHINCTEROTOMY  
51.83 PANCREATIC SPHINCTEROPLASTY  
51.89 OTHER OPERATIONS ON SPHINCTER OF ODDI  
51.91 REPAIR OF LACERATION OF GALLBLADDER  
51.92 CLOSURE OF CHOLECYSTOSTOMY  
51.93 CLOSURE OF OTHER BILIARY FISTULA  
51.94 REVISION OF ANASTOMOSIS OF BILIARY TRACT  
51.95 REMOVAL OF PROSTHETIC DEVICE FROM BILE DUCT  
51.99 OTHER OPERATIONS ON BILIARY TRACT  
52.01 DRAINAGE OF PANCREATIC CYST BY CATHETER  
52.09 OTHER PANCREATOTOMY  
52.12 OPEN BIOPSY OF PANCREAS  
52.19 OTHER DIAGNOSTIC PROCEDURES ON PANCREAS  
52.22 OTHER EXCISION OR DESTRUCT OF LESION OR TISSUE  
OF PANCREAS OR PANC DUCT

52.3 MARSUPIALIZATION OF PANCREATIC CYST  
52.4 INTERNAL DRAINAGE OF PANCREATIC CYST  
52.51 PROXIMAL PANCREATECTOMY  
52.52 DISTAL PANCREATECTOMY  
52.53 RADICAL SUBTOTAL PANCREATECTOMY  
52.59 OTHER PARTIAL PANCREATECTOMY (HAS 1 CASE)  
52.6 TOTAL PANCREATECTOMY  
52.7 RADICAL PANCREATICODUODENECTOMY  
52.8 0 PANCREATIC TRANSPLANT, NOS  
52.81 REIMPLANTATION  
52.82 HOMOTRANSPLANT OF PANCREAS  
52.83 HETEROTRANSPLANT OF PANCREAS  
52.92 CANNULATION OF PANCREATIC DUCT  
52.95 OTHER REPAIR OF PANCREAS  
52.96 ANASTOMOSIS OF PANCREAS (HAS 1 CASE)  
52.99 OTHER OPERATIONS ON PANCREAS  
53.00 UNILATERAL REPAIR OF INGUINAL HERNIA, NOS  
53.01 REPAIR OF DIRECT INGUINAL HERNIA HAS 2 CASES  
53.02 REPAIR OF INDIRECT INGUINAL HERNIA HAS 2 CASES  
53.03 REPAIR OF DIRECT INGUINAL HERNIA W/ GRAFT OR PROSTHESIS HAS 1 CASE  
53.04 REPAIR OF INDIRECT INGUINAL HERNIA W/ GRAFT OR PROSTHESIS  
53.05 REPAIR OF INGUINAL HERNIA W/ GRAFT OR PROSTHESIS, NOS  
53.10 BILATERAL REPAIR OF INGUINAL HERNIA, NOS  
53.11 BILATERAL REPAIR OF DIRECT INGUINAL HERNIA HAS 1 CASE  
53.12 BILATERAL REPAIR OF INDIRECT INGUINAL HERNIA  
53.13 BILATERAL REPAIR OF INGUINAL HERNIA, ONE DIRECT AND ONE INDIRECT  
53.14 BILATERAL REPAIR OF DIRECT INGUINAL HERNIA W/ GRAFT OR PROSTHESIS  
53.15 BILATERAL REPAIR OF INDIRECT INGUINAL HERNIA W/ GRAFT OR PROSTHESIS  
53.16 BILATERAL REPAIR OF INGUIN HERNIA, 1 DIRECT 1 INDIRECT, W/ GRAFT OR PROS  
53.17 BILATERAL INGUINAL HERNIA REPAIR W/ GRAFT OR PROSTHESIS, NOS  
53.21 UNILATERAL REPAIR OF FEMORAL HERNIA  
53.29 OTHER UNILATERAL FEMORAL HERNIORRHAPHY HAS 1 CASE  
53.31 BILATERAL REPAIR OF FEMORAL HERNIA W/ GRAFT OR PROSTHESIS  
53.39 OTHER BILATERAL FEMORAL HERNIORRHAPHY  
53.41 REPAIR OF UMBILICAL HERNIA W/ PROSTHESIS  
53.49 OTHER UMBILICAL HERNIORRHAPHY HAS 2 CASES  
53.51 INCISIONAL HERNIA REPAIR HAS 2 CASES  
53.59 REPAIR OF OTHER HERNIA OF ANTERIOR ABDOMINAL WALL (HAS 5 CASES)  
53.61 INCISIONAL HERNIA REPAIR W/ PROSTHESIS (HAS 6 CASES)  
53.69 REPAIR OF OTHER HERNIA OF ANTERIOR ABDOMINAL WALL W/ PROSTHESIS HAS 1 CASE  
53.7 REPAIR OF DIAPHRAGMATIC HERNIA, ABDOMINAL APPROACH  
54.0 INCISION OF ABDOMINAL WALL  
54.1 1 EXPLORATORY LAPAROTOMY  
54.12 REOPENING OF RECENT LAPAROTOMY SITE  
54.19 OTHER LAPAROTOMY  
54.21 LAPAROSCOPY  
54.22 BIOPSY OF ABDOMINAL WALL OR UMBILICUS  
54.23 BIOPSY OF ABDOMINAL WALL OR UMBILICUS (HAS 2 CASES)  
54.29 OTHER DIAGNOSTIC PROCEDURES ON ABDOMINAL REGION  
54.3 EXCISION OR DESTRUCTION OF LESION OR TISSUE OF ABDOMINAL WALL OR UMBILICUS  
54.4 EXCISION OR DESTRUCTION OF PERITONEAL TISSUE  
54.51 LAPAROSCOPIC LYSIS OF PERITONEAL ADHESIONS  
54.59 OTHER LYSIS OF PERITONEAL ADHESIONS HAS 463 CASES  
54.61 RECLOSURE OF POSTOPERATIVE DISRUPTION OF ABDOMINAL WALL  
54.62 DELAYED CLOSURE OF GRANULATING ABDOMINAL WOUND  
54.63 OTHER SUTURE OF ABDOMINAL WALL  
54.64 SUTURE OF PERITONEUM

54.71 REPAIR OF GASTROSCHISIS  
54.72 OTHER REPAIR OF ABDOMINAL WALLS  
54.73 OTHER REPAIR OF PERITONEUM  
54.74 OTHER REPAIR OF OMENTUM  
54.75 OTHER REPAIR OF MESENTERY  
54.92 REMOVAL OF FOREIGN BODY FROM PERITONEAL  
CAVITY HAS 1 CASE  
54.93 CREATION OF CUTANEOPERITONEAL FISTULA  
54.94 CREATION OF PERITONEOVASCULAR SHUNT  
54.95 INCISION OF PERITONEUM  
56.51 FORMATION OF CUTANEOUS URETERO-ILEOSTOMY  
56.52 REVISION OF CUTANEOUS URETERO-ILEOSTOMY  
56.61 FORMATION OF OTHER CUTANEOUS URETEROSTOMY  
56.62 REVISION OF OTHER CUTANEOUS URETEROSTOMY  
56.71 URINARY DIVERSION TO INTESTINE  
56.72 REVISION OF URETEROINTESTINAL ANASTOMOSIS  
59.00 RETROPERITONEAL DISSECTION, NOS  
65.01 LAPAROSCOPIC OOPHOROTOMY  
65.09 OTHER OOPHORECTOMY  
65.12 OTHER BIOPSY OF OVARY  
65.21 MARSUPIALIZATION OF OVARIAN CYST  
65.22 WEDGE RESECTION OF OVARY  
65.23 LAPAROSCOPIC MARSUPIALIZATION OF OVARIAN CYST  
65.24 LAPAROSCOPIC WEDGE RESECTION OF OVARY  
65.25 OTHER LAPAROSCOPIC LOCAL EXCISION OR  
DESTRUCTION OF OVARY  
65.29 OTHER LOCAL EXCISION OR DESTRUCTION OF OVARY  
65.31 LAPAROSCOPIC UNILATERAL OOPHORECTOMY  
65.39 OTHER UNILATERAL OOPHORECTOMY  
65.41 LAPAROSCOPIC UNILATERAL SALPINGO-  
OOPHORECTOMY  
65.49 OTHER UNILATERAL SALPINGOOPHORECTOMY  
65.51 OTHER REMOVAL OF BOTH OVARIES AT SAME  
OPERATIVE EPISODE  
65.52 OTHER REMOVAL OF REMAINING OVARY  
65.53 LAPAROSCOPIC REMOVAL OF BOTH OVARIES AT SAME  
OPERATIVE EPISODE  
65.54 LAPAROSCOPIC REMOVAL OF REMAINING OVARY

65.61 OTHER REMOVAL OF BOTH OVARIES AND TUBES AT  
SAME OPERATIVE EPISODE  
65.62 OTHER REMOVAL OF REMAINING OVARY AND TUBE  
65.63 LAPAROSCOPIC REMOVAL OF BOTH OVARIES AND  
TUBES AT SAME OPERATIVE EPISODE  
65.64 LAPAROSCOPIC REMOVAL OF REMAINING OVARY AND  
TUBE  
65.71 OTHER SIMPLE SUTURE OF OVARY  
65.72 OTHER REIMPLANTATION OF OVARY  
65.73 OTHER SALPINGO OOPHOROPLASTY  
65.74 LAPAROSCOPIC SIMPLE SUTURE OF OVARY  
65.75 LAPAROSCOPIC REIMPLANTATION OF OVARY  
65.76 LAPAROSCOPIC SALPINGO-OOPHOROPLASTY  
65.79 OTHER REPAIR OF OVARY  
65.81 LAPAROSCOPIC LYSIS OF ADHESIONS OF OVARY AND  
FALLOPIAN TUBE  
65.89 OTHER LYSIS OF ADHESIONS OF OVARY AND  
FALLOPIAN TUBE  
65.92 TRANSPLANTATION OF OVARY  
65.93 MANUAL RUPTURE OF OVARIAN CYST  
65.94 OVARIAN DENERVATION  
65.95 RELEASE OF TORSION OF OVARY  
65.99 OTHER OPERATIONS ON OVARY  
66.01 SALPINGOTOMY  
66.02 SALPINGOSTOMY  
66.11 BIOPSY OF FALLOPIAN TUBE  
66.19 OTHER DIAGNOSTIC PROCEDURES ON FALLOPIAN  
TUBES  
66.31 OTHER BILATERAL LIGATION AND CRUSHING OF  
FALLOPIAN TUBES  
66.32 OTHER BILATERAL LIGATION AND DIVISION OF  
FALLOPIAN TUBES  
66.39 OTHER BILATERAL DESTRUCTION OR OCCLUSION OF  
FALLOPIAN TUBES  
66.4 TOTAL UNILATERAL SALPINGECTOMY  
66.51 REMOVAL OF BOTH FALLOPIAN TUBES AT SAME  
OPERATIVE EPISODE  
66.52 REMOVAL OF REMAINING FALLOPIAN TUBE

66.61 EXCISION OR DESTRUCTION OF LESION OF FALLOPIAN TUBE  
66.62 SALPINGECTOMY W/ REMOVAL OF TUBAL PREGNANCY  
66.63 BILATERAL PARTIAL SALPINGECTOMY, NOS  
66.69 OTHER PARTIAL SALPINGECTOMY  
66.71 SIMPLE SUTURE OF FALLOPIAN TUBE  
66.72 SALPINGO-OOPHOROSTOMY  
66.73 SALPINGO-SALPINGOSTOMY  
66.74 SALPINGO-UTEROSTOMY  
66.79 OTHER REPAIR OF FALLOPIAN TUBE  
66.92 UNILATERAL DESTRUCTION OR OCCLUSION OF FALLOPIAN TUBE  
66.93 IMPLANTATION OR REPLACEMENT OF PROSTHESIS OF FALLOPIAN TUBE  
66.94 REMOVAL OF PROSTHESIS OF FALLOPIAN TUBE  
66.96 DILATION OF FALLOPIAN TUBE  
66.97 BURYING OF FIMBRIAE IN UTERINE WALL  
66.99 OTHER OPERATION OF FALLOPIAN TUBE  
68.0 OTHER INCISION AND EXCISION OF UTERUS  
68.13 OPEN BIOPSY OF UTERUS  
68.14 OPEN BIOPSY OF UTERINE LIGAMENTS  
68.19 OTHER DIAGNOSTIC PROCEDURES ON UTERUS AND SUPPORTING STRUCTURES  
68.23 ENDOMETRIAL ABLATION  
68.29 OTHER EXCISION OR DESTRUCTION OF LESION OF UTERUS

68.3 SUBTOTAL ABDOMINAL HYSTERECTOMY  
68.31 LAPAROSCOPIC SUPRACERVICAL HYSTERECTOMY [LSH]  
68.39 OTHER SUBTOTAL ABDOMINAL HYSTERECTOMY  
68.4 TOTAL ABDOMINAL HYSTERECTOMY  
68.41 LAP TOTAL ABDOMINAL HYST OCT06-  
68.49 TOTAL ABD HYST NEC/NOS OCT06-  
68.6 RADICAL ABDOMINAL HYSTERECTOMY  
68.61 LAP RADICAL ABDOMNL HYST OCT06-  
68.69 RADICAL ABD HYST NEC/NOS OCT06-  
68.8 PELVIC EVISCERATION  
68.9 OTHER AND UNSPECIFIED HYSTERECTOMY  
69.19 OTHER EXCISION OR DESTRUCTION OF UTERUS AND SUPPORTING STRUCTURES  
69.21 INTERPOSITION OPERATION  
69.22 OTHER UTERINE SUSPENSION  
69.23 VAGINAL REPAIR OF CHRONIC INVERSION OF UTERUS  
69.29 OTHER REPAIR OF UTERUS AND SUPPORTING STRUCTURES  
69.3 PARACERVICAL UTERINE DENERVATION  
69.41 SUTURE OF LACERATION OF UTERUS  
69.42 CLOSURE OF FISTULA OF UTERUS  
69.49 OTHER REPAIR OF UTERUS  
69.98 OTHER OPERATIONS ON SUPPORTING STRUCTURES OF UTERUS

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

420.0 AC PERICARDIT IN OTH DIS  
420.90 ACUTE PERICARDITIS NOS  
420.91 AC IDIOPATH PERICARDITIS  
420.99 ACUTE PERICARDITIS NEC  
421.0 AC/SUBAC BACT ENDOCARD  
421.1 AC ENDOCARDIT IN OTH DIS  
421.9 AC/SUBAC ENDOCARDIT NOS  
422.0 AC MYOCARDIT IN OTH DIS  
422.90 ACUTE MYOCARDITIS NOS  
422.91 IDIOPATHIC MYOCARDITIS  
422.92 SEPTIC MYOCARDITIS  
422.93 TOXIC MYOCARDITIS  
422.99 ACUTE MYOCARDITIS NEC  
423.0 HEMOPERICARDIUM  
423.1 ADHESIVE PERICARDITIS  
423.2 CONSTRICTIV PERICARDITIS  
423.3 CARDIAC TAMPONADE  
423.8 PERICARDIAL DISEASE NEC  
423.9 PERICARDIAL DISEASE NOS  
424.0 MITRAL VALVE DISORDER  
424.1 AORTIC VALVE DISORDER  
424.2 NONRHEUM TRICUSP VAL DIS  
424.90 ENDOCARDITIS NOS  
424.91 ENDOCARDITIS IN OTH DIS  
424.99 ENDOCARDITIS NEC  
425.0 ENDOMYOCARDIAL FIBROSIS  
425.1 HYPERTR OBSTR CARDIOMYOP  
425.2 OBSC AFRIC CARDIOMYOPATH  
425.3 ENDOCARD FIBROELASTOSIS  
425.4 PRIM CARDIOMYOPATHY NEC  
425.5 ALCOHOLIC CARDIOMYOPATHY  
425.7 METABOLIC CARDIOMYOPATHY  
425.8 CARDIOMYOPATH IN OTH DIS  
425.9 SECOND CARDIOMYOPATH NOS

428.0 CHF NOS  
428.1 LEFT HEART FAILURE  
428.20 SYSTOLIC HRT FAILURE NOS  
428.21 AC SYSTOLIC HRT FAILURE  
428.22 CHR SYSTOLIC HRT FAILURE  
428.23 AC ON CHR SYST HRT FAIL  
428.30 DIASTOLC HRT FAILURE NOS  
428.31 AC DIASTOLIC HRT FAILURE  
428.32 CHR DIASTOLIC HRT FAIL  
428.33 AC ON CHR DIAST HRT FAIL  
428.40 SYST/DIAST HRT FAIL NOS  
428.41 AC SYST/DIASTOL HRT FAIL  
428.42 CHR SYST/DIASTL HRT FAIL  
428.43 AC/CHR SYST/DIA HRT FAIL  
428.9 HEART FAILURE NOS