

Pediatric Quality Indicators (PDI) Log of Coding Updates and Revisions Through Version 2023

Prepared for:

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Log of Coding Updates and Revisions

The following table summarizes the revisions made to the Pediatric Quality Indicators (PDI) software, software documentation and the technical specification documents in the 2023 version and previous versions since the original release of QI change log documents in April 2002. It also reflects changes to indicator specifications based on updates to ICD-10-CM/PCS codes through Fiscal Year 2023 (effective October 1, 2022) and incorporates coding updates that were implemented in both the SAS and WinQI versions of the PDI software.

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** 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** may impact the measure result that is something other than the most recent fiscal year coding change.
- 3. **Software/Documentation** 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.

All changes noted below have been incorporated into the software programming code, software documentation and the PDI technical specifications. With this software update, the PDI software now accounts for ICD-9-CM, ICD-10 CM/PCS, and DRG/MS-DRG codes valid from October 1, 1994 through September 30, 2023.

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-CM v6.0, the last version of the AHRQ QI measures, and the ICD-10-CM releases – such as, v2020 and later. A detailed explanation of the process of conversion is detailed in https://qualityindicators.ahrq.gov/Downloads/Resources/Publications/2013/C.14.10.D001 REVISED.pdf

Note: the change log entries for v6.0 (ICD-10) reflect the changes from v5.0 alpha version of ICD-10 software and not the changes from v5.0 ICD-9-CM version.

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI All	Software/ Documentation	Description: Added fiscal year (FY) 2023 functionality Rationale: The AHRQ PDI software v2023 reflects coding changes based on fiscal year 2023 coding updates to the International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS).
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI All	Software/ Documentation	Description: Replace use of Major Diagnostic Category (MDC) 14 Pregnancy, Childbirth & the Puerperium and MDC 15 Newborns & Other Neonates with Conditions Originating in Perinatal Period with new diagnosis code sets MDC14PRINDX and MDC15PRINDX respectively. Rationale: Non-missing MDCs are needed for the calculation of observed and risk-adjusted rates. Thus, users are required to supply MDCs calculated by the Medicare Severity Diagnosis Related Groups (MS-DRGs) Classifications and Software. However, running the MS-DRG Software is challenging for some users and is preventing them from adopting the most recent AHRQ QI software version. This issue is partially addressed by replacing MDC 14 and MDC 15 with code lists which allows users to generate output without requiring these MDCs in their data.
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI All	Software/ Documentation	Description: If MDC is provided, discharges with missing MDC are no longer deleted, rather they are excluded from hospital-level PDI Rationale: Non-missing MDCs are needed for the calculation of observed and risk-adjusted rates. Excluding discharges from hospital-level PDI rather than deleting discharges allows discharges with missing MDC to be evaluated for area-level PDI.
v2023	August 2023	PDI 01	Specification/ Calculation	Description: Removed MDC category (GPPD01) of patients with either MDC 2 (eye), MDC 3 (ear, nose, mouth, and throat), MDC 9 (skin, subcutaneous tissue, and breast),

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(ICD-10) for SAS QI & WinQI				MDC 19 (mental diseases and disorders), MDC 22 (burns), or MDC 23 (factors influencing health status)
WIIIQI				Rationale: PDI 01 defined risk variable GPPD01 by aggregating MDCs. However, this risk variable was not significant in feature selection. Thus, GPPD01 stratification is no longer used and removed from the software.
v2023 (ICD-10) for SAS QI &	August 2023	PDI 01	Fiscal Year Coding	Description: Updated definitions of minor and major diagnostic procedures and minor and major therapeutic procedures to Procedure Class (PRCLASS) v2023.1
WinQI				Rationale: Annual coding updates for PRCLASS. PRCLASS is defined by the HCUP Procedure Class Tool (https://www.hcup-us.ahrq.gov/toolssoftware/procedureicd10/procedure icd10.jsp).
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 01	Fiscal Year Coding	Description: Spine surgery procedure codes (SPINEP) 2 codes added
				Rationale: Annual coding updates
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 05	Fiscal Year Coding	Description: Potentially trans-pleural cardiac procedures (CARDSIP) 2 codes added
wingi				Rationale: Annual coding updates
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 05	Fiscal Year Coding	Description: Chest trauma diagnosis codes (CTRAUMD) 4 codes added
,, mQ1				Rationale: Annual coding updates

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v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 05	Specification/ Calculation	Description: Non-traumatic pneumothorax diagnosis codes (IATPTXD) 9 codes added Rationale: New code list used to exclude non-traumatic pneumothorax diagnoses.
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 05	Specification/ Calculation	Description: Replaced denominator exclusion of iatrogenic pneumothorax diagnosis codes (IATROID) with exclusion of non-traumatic pneumothorax diagnosis codes (IATPTXD) Rationale: In prior versions, patients admitted with a principal diagnosis of spontaneous pneumothorax were included in the measure. These are typically patients with underlying chronic lung disease, such as asthma, COPD, bronchiectasis, or cystic fibrosis, who rupture a bleb or injure a small airway while coughing. In the setting of a spontaneous pneumothorax requiring inpatient care, it is impossible to interpret a secondary diagnosis of iatrogenic pneumothorax not present on admission. This latter diagnosis may simply reflect some residual pneumothorax after discontinuation of a thoracostomy tube or other interventions to treat the spontaneous pneumothorax. IATPTXD now includes codes for both iatrogenic pneumothorax and spontaneous pneumothorax or air leak.
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 05	Specification/ Calculation	Description: Thoracic surgery procedure codes (THORAIP) 47 codes added Rationale: Added brachial plexus and subclavian vessel release procedures to the THORAIP denominator exclusion since these procedures generally involve rib resection, which should be excluded from the denominator.
v2023	August 2023	PDI 08	Fiscal Year Coding	Description: Coagulation disorders diagnosis codes (COAGDID) 10 codes added

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(ICD-10) for SAS QI & WinQI				Rationale: Annual coding updates
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 08	Fiscal Year Coding	Description: Control of hemorrhage and evacuation of hematoma procedures (HEMOTH2P) 18 codes added, 15 codes removed Rationale: Removed certain procedure codes for release of the spinal cord or peripheral nerves from HEMOTH2P, as these procedures are not plausibly related to a postoperative hemorrhage or hematoma
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 09	Specification/ Calculation	Description: Degenerative neurologic disorder diagnosis codes (DGNEUID) 19 codes added, 7 codes removed Rationale: New codes were introduced in fiscal year 2023 to specify dementia severity for all key types of dementia. Based on the clinical concept, and prior analyses, the denominator exclusion for PDI 09 has been narrowed to severe dementia.
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 09	Fiscal Year Coding	Description: Lung transplant procedure codes (LUNGTRANSP) 2 codes added Rationale: Annual coding updates
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 09	Fiscal Year Coding Specification/ Calculation	Description: Neuromuscular disorders diagnosis codes (NEUROMD) 16 codes added Rationale: 10 codes were added as annual coding updates. The other 6 Quadriplegia codes were added because Quadriplegia was identified as a condition that is associated with respiratory complications after surgery.

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v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 09	Fiscal Year Coding	Description: Updated Laryngeal, pharyngeal, nose, mouth and pharynx surgery procedure codes (NUCRANP) 28 codes removed
				Rationale: Airway drainage procedures (via natural or artificial opening) and procedures to remove or revise tracheostomy devices were identified as procedures that may be performed to treat or prevent acute respiratory failure. These procedures should not serve as denominator exclusions for PSI 11 because they do not justify prolonged endotracheal intubation or mechanical ventilation.
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 10	Specification/ Calculation	Description: Revised the assignment of MS-DRGs to DRG*C (surgical class) categories for PDI 10 risk-adjustment Rationale: PDI 10 (Postoperative Sepsis Rate) has a denominator exclusion for surgical class 4 (i.e., dirty operative site) and incorporates risk-adjustment based on other surgical classes, defined as clean (class 1), clean-contaminated (class 2), potentially contaminated (class 3), or unspecified (class 9). This classification is based on surgical Medicare Severity Diagnosis Related Groups (MS-DRGs) and must therefore be viewed as approximate. In the absence of detailed clinical information about the surgical site, AHRQ reviewed the current architecture of MS-DRGs and the empirically observed incidence of PDI 10 for clusters of MS-DRGs. This review led to reassignment of several MS-DRGs to different surgical classes (e.g., all hernia repairs were assigned to class 1), which
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 10	Fiscal Year Coding	improved the performance of the risk-adjustment model. Description: MS-DRG codes for surgical class 1 (DRG1C) 6 codes added, 5 codes removed Rationale: Annual coding updates
v2023	August 2023	PDI 10	Fiscal Year Coding	Description: MS-DRG codes for surgical class 2 (DRG2C) 3 codes added, 8 codes removed

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(ICD-10) for SAS QI & WinQI				Rationale: Annual coding updates
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 10	Fiscal Year Coding	Description: MS-DRG codes for surgical class 3 (DRG3C) 2 codes added, 1 code removed Rationale: Annual coding updates
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 10	Fiscal Year Coding	Description: MS-DRG codes for surgical class 9 (DRG9C) 1 code added Rationale: Annual coding updates
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 10	Fiscal Year Coding	Description: Infection diagnosis codes (INFECID) 3 codes added Rationale: In some cases, patients with chronic pyelonephritis associated with urinary tract obstruction or vesicoureteral reflux may be coded with N11 diagnoses that represent bacterial infections present on admission. These infections pose a risk of postoperative sepsis to justify exclusion from the denominator of PDI 10.
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 12	Fiscal Year Coding	Description: Hemophilia diagnosis codes (HEMOPHD) 2 codes added Rationale: Annual coding updates
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 15	Specification/ Calculation	Description: Diabetes with short-term complications diagnosis codes (ACDIASD) 5 codes added

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				Rationale: Updated code list to include hospital admissions for E13 type 1.5 diabetes, also known as MODY (Maturity Onset Diabetes of the Young) and LADA (Latent Autoimmune Diabetes in Adults)
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Software/ Documentation	Description: Updated software default option to include COVID-19 discharges Rationale: Starting with v2023, the QI risk adjustment models were developed using discharge data that included diagnosis codes for COVID-19. As such, the QI software no longer defaults to excluding COVID-19 discharges. Instead, the software defaults to the inclusion of all discharges. To temporarily provide users with flexibility, the QI software retains the option to exclude discharges with COVID-19, but the user will not receive risk-adjusted rates or composites in the output. The algorithm that defines COVID-19 only considers COVID-19 present-on-admission to remain consistent with the definition and intent of other risk factors considered in QI risk adjustment models.
V2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Software/ Documentation	Description: Updated risk-adjustment models and re-estimated covariates, coefficients, signal variance and reference arrays using three-year reference population Rationale: Models are re-estimated with each software version to leverage the latest data available at the time of development. The v2023 risk adjustment models account for the quarterly effect of COVID-19. Combining three years of data to make the reference population allows for robust risk-adjustment models and accurate estimation of risk-scores in pre-pandemic (2019) and time-varying acute pandemic(2020-2021) periods. Hospital data input into QI software from 2022 and later are treated as if occurring in the last quarter of 2021 for risk adjustment.
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Specification/ Calculation	Description: Updated the Clinical Classifications Software Refined (CCSR) for ICD-10-CM Diagnoses (https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/dxccsr.jsp) to improve efficiency and reflect fiscal year 2023 coding and categories used in risk-adjustment

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				Rationale: Annual updates based on fiscal year coding, clinical review, user feedback, and empirical analysis of significant risk-factors. In analysis of the reference population, if there are not enough denominator discharges in a CCSR category, then the category is not a feature in risk-adjustment. As a result, CCSR categories vary in each software version due to changes in the underlying reference population.
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Fiscal Year Coding	Description: Updated AHRQ's Elixhauser Comorbidity Software Refined for ICD-10-CM Diagnoses to v2023.1 Rationale: Select Elixhauser Comorbidity Software Refined comorbidities (https://www.hcup- us.ahrq.gov/toolssoftware/comorbidityicd10/comorbidity_icd10.jsp) are included in certain PDI risk-adjustment models.
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Fiscal Year Coding	Description: Added Present on Admission (POA) Exempt ICD-10-CM diagnosis codes, Version 40 (POAXMPT_V40FMT). New codes are defined by CMS at https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalAcqCond/Coding Rationale: Annual coding updates
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 10, PDI 12, PDI 18	Fiscal Year Coding	Description: Intermediate-risk immunocompromised state diagnosis codes (IMMUITD) 2 codes added Rationale: Annual coding updates
v2023	August 2023	PDI 10, PDI 12, PDI 18	Fiscal Year Coding	Description: High-risk immunocompromised state diagnosis codes (IMMUNHD) 1 code added

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(ICD-10) for SAS QI & WinQI				Rationale: Annual coding updates
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 10, PDI 12, PDI 18	Fiscal Year Coding	Description: High-risk immunocompromised state procedure codes (TRANSPP) 4 codes added Rationale: Annual coding updates
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 14, PDI 15, PDI 16, PDI 18, PDI 90, PDI 91, PDI 92	Software/ Documentation	Description: Added software option to allow users to specify the risk adjustment model year Rationale: The software allows users to adjust for the effect of COVID-19 by including time periods (year and quarter) in the risk-adjustment models. Users have the option to calculate risk-adjusted results using model coefficients estimated with 2020 data (pandemic period) or 2019 data (non-pandemic period).
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 14, PDI 15, PDI 16, PDI 18, PDI 90, PDI 91, PDI 92	Specification/ Calculation	Description: Replaced use of generic county poverty deciles code list (POVCAT) with year-specific code lists County Poverty Deciles - Based on 2020 Census Data (POVCAT20F) and County Poverty Deciles - Based on 2019 Census Data (POVCAT19F) Rationale: Version 2023 selects poverty deciles that best reflect user data for the calculation of risk-adjusted outcomes
v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 14, PDI 15, PDI 16, PDI 18, PDI 90, PDI 91, PDI 92	Software/ Documentation	Description: Updated software population estimates based on intercensal and postcensal estimates of county-level population by single-year age group, sex, race, and Hispanic origin covering the years 2000 through 2022 received from the Census Bureau (http://www.census.gov/popest/). Rationale: Annual updates

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v2023 (ICD-10) for SAS QI & WinQI	August 2023	PDI 14, PDI 15, PDI 16, PDI 18, PDI 90, PDI 91, PDI 92	Software/ Documentation	Description: Streamlined parameter files for area-level estimates Rationale: Previously, the software used to calculate area-level indicators used text parameter files while the software used to calculate hospital-level indicators used CSV files. As a move to unify the software and gain efficiencies, v2023 aligns the parameter estimate files between two software, i.e., using CSV files.
v2023 (ICD-10) for SAS QI & WinQI	August 2023	NQI 03, PDI 08, PDI 09, PDI 10	Fiscal Year Coding	Description: Operating room procedure codes (ORPROC) 305 codes added, 350 codes removed Rationale: Annual coding updates and revisions to address inconsistencies in the handling of percutaneous procedures typically performed with imaging guidance, or at the bedside.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI All	Software/ Documentation	Description: Added fiscal year (FY) 2022 functionality Rationale: The AHRQ PDI software v2022 reflects coding changes based on fiscal year 2022 coding updates to the International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS).
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI All	Software/ Documentation and Specification/ Calculation	Description: Removed major diagnostic category (MDC) imputation based on mapping from MS-DRGs to MDCs (MDCF2T) Rationale for the change: The MDC imputation (i.e. MDCNEW logic) allowed for a MDC based on a diagnosis related group (DRG) to be created when MDC is not present in the input data file. However, this imputation was error-prone when the correct Center for Medicare & Medicaid Services (CMS) Medicare Severity Diagnosis Related Groups (MS-DRG) classification software is not applied in the input data. Thus, MDC is now treated as a required data element. Users MUST PROVIDE the MDC generated by the CMS MS-DRG grouper software, without

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				imputing or mapping from MS-DRGs. All records should have an MDC between 01 and 25.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI All	Software/ Documentation	Description: MS-DRG to MDC mapping (MDCF2T) 790 codes removed Rationale for change:
				With the removal of the MDC imputation logic in v2022, a MS-DRG to MDC mapping is no longer required.
v2022 (ICD-10) for SAS QI &	July 2022	PDI All	Software/ Documentation	Description: Added MDC_PROVIDED option in the CONTROL program
WinQI				Rationale for the change: Users are required to provide MDC on their input data. If MDC is missing (MDC_PROVIDED = 0), the software only calculates numerators, denominators, and observed rates. Expected rates, risk-adjusted rates, smoothed rates, and composites are suppressed when MDC is not provided. If MDC_PROVIDED = 1 and MDC is always missing on the input data, the software will prevent users from calculating the indicators.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI All	Software/ Documentation	Description: Added global exclusion for missing MDC Rationale for the change: MDC is used in the specifications of select indicators. Therefore, data must
				include valid MDCs or accurate calculation.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI All	Software/ Documentation	Description: Updated AHRQ's Elixhauser Comorbidity Software Refined for ICD-10-CM Diagnoses Tool used in the PDI module
				Rationale for the change: Select Elixhauser Comorbidity Software Refined comorbidities (https://www.hcup- us.ahrq.gov/toolssoftware/comorbidityicd10/comorbidity_icd10.jsp) are included in certain risk-adjustment models.
v2022	July 2022	PDI 01	Fiscal Year Coding	Description: Spine surgery procedure codes (SPINEP) 20 codes added

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(ICD-10) for SAS QI & WinQI				Rationale for change: Annual coding updates
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 05	Specification/ Calculation	Description: Potentially trans-pleural cardiac procedures (CARDSIP) 355 codes added
				Rationale for change: Users identified additional procedures that are potentially performed via the trans-pleural route and are therefore expected to cause small pneumothoraxes.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 08	Specification/ Calculation	Description: Updated denominator exclusion where the treatment of postoperative hemorrhage or hematoma occurs before the first operating room procedure to no longer require any secondary ICD-10-CM diagnosis code for postoperative hemorrhage or hematoma Rationale for change: PDI 08 excludes discharges in which the treatment of postoperative hemorrhage
				or hematoma (HEMOTH2P) occurs before the first operating room procedure (ORPROC). Thus, any secondary ICD-10-CM diagnosis code for postoperative hemorrhage or hematoma (POHMRI2D) is not required in the exclusion logic.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 08	Fiscal Year Coding	Description: Control of hemorrhage and evacuation of hematoma procedures (HEMOTH2P) 12 codes added
				Rationale for change: Annual coding updates.
v2022 (ICD-10) for SAS QI &	July 2022	PDI 09	Specification/ Calculation	Description: Updated numerator criteria to use the last reported date of the prolonged mechanical ventilation or intubation procedure rather than the first
WinQI				Rationale for change: In prior versions, the software used the first reported date of the prolonged mechanical ventilation or intubation procedures (PR9672P, PR9671P, PR9604P) to capture some PDI 09 numerator events. The intent of PDI 09 is to capture

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				numerator events where prolonged mechanical ventilation or intubation procedures occur on the same day or certain days after the first operating room procedure (ORPROC). However, because there may be multiple procedures in the same discharge, capturing the last occurrence date of the procedure better aligns the measure with its clinical intent.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 09	Specification/ Calculation	Description: Require neuromuscular and degenerative neurological disorders be present on admission for denominator exclusion Rationale for change: In prior versions, discharges were excluded with any listed ICD-10-CM diagnosis code for neuromuscular disorder (NEUROMD), or with any listed ICD-10-CM diagnosis code for degenerative neurological disorder (DGNEUID) from the denominator. The intent is for these conditions to exclude a discharge only if the conditions are comorbid (i.e., present on admission). However, there was no "present on admission" (POA) qualification for the denominator
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 09	Fiscal Year Coding	exclusions in prior versions. Thus, the present on admission requirement better aligns the measure with its clinical intent. Description: Laryngeal, pharyngeal, nose, mouth and pharynx surgery procedure codes (NUCRANP) 2 codes added
v2022	July 2022	PDI 10	Fiscal Year	Rationale for change: Annual coding updates Description:
(ICD-10) for SAS QI & WinQI			Coding	MS-DRG to Modified DRG (DRGF2T) 2 code result values changed Rationale for change: Annual coding updates.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 10	Specification/ Calculation	Description: Updated category (HPPD10) for risk levels based on high-risk and intermediaterisk immune compromising conditions Rationale for change:

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				HPPD10 includes high-risk and intermediate-risk immune compromising conditions as a significant risk factor in the PDI 10 model.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 10	Specification/ Calculation	Description: High-risk immunocompromised state diagnosis codes (IMMUNHD) 1 code added Rationale for change: Annual coding updates.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 10	Fiscal Year Coding	Description: Infection diagnosis codes (INFECID) 5 codes added Rationale for change: Annual coding updates
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 10	Specification/ Calculation	Description: Intermediate-risk immunocompromised state diagnosis codes (IMMUITD) 7 codes added Rationale for change: Annual coding updates
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 12	Fiscal Year Coding	Description: Cancer diagnosis codes without leukemia/lymphoma (CANITD) 2 codes added Rationale for change: Annual coding updates
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 01	Specification/ Calculation	Description: Updated mapping from ICD-10-PCS to Procedure Class (PRCLASS) v2022.2 Rationale for change: PRCLASS is defined by the HCUP Procedure Class Tool (https://www.hcup-us.ahrq.gov/toolssoftware/procedureicd10/procedure_icd10.jsp). PRCLASS is used to define hospital level risk-adjustment variables

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v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Specification/ Calculation	Description: Updated the Clinical Classifications Software Refined (CCSR) for ICD-10-CM Diagnoses (https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/dxccsr.jsp) to improve efficiency and reflect fiscal year 2022 coding and categories used in risk-adjustment Rationale for change: Annual updates based on fiscal year coding, clinical review, user feedback, and empirical analysis of significant risk-factors. In analysis of the reference population, if there are not enough denominator discharges in a CCSR category, then the category is not a feature in risk-adjustment. As a result, CCSR categories vary in each software version due to changes in the underlying reference population.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Fiscal Year Coding	Description: Added POA Exempt ICD-10-CM diagnosis codes, Version 39 (POAXMPT_V39FMT). New codes are defined by CMS at https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalAcqCond/Coding Rationale for the change: Annual coding updates.
v2022 (ICD-10) for SAS QI & WinQI	July 2022	NQI 03, PDI 08, PDI 09, PDI 10	Fiscal Year Coding	Description: Operating room procedure codes (ORPROC) 1538 codes added 31 codes removed Rationale for change: Annual coding updates
v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 14, PDI 15, PDI 16, PDI 18, PDI 90, PDI 91, PDI 92	Fiscal Year Coding	Description: Updated County Poverty Deciles - Based on Census Data mapping (POVCAT) and coefficients using 2019 U.S. Census Small Area Income and Poverty Estimates Rationale for change: Annual coding updates.

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v2022 (ICD-10) for SAS QI & WinQI	July 2022	PDI 14, PDI 15, PDI 16, PDI 18, PDI 90, PDI 91, PDI 92	Software/ Documentation	Description: Updated software population estimates based on intercensal and postcensal estimates of county-level population by single-year age group, sex, race, and Hispanic origin covering the years 2000 through 2021 received from the Census Bureau (http://www.census.gov/popest/). Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI All	Software/ Documentation	Description: Capped smoothed rates to 1 if values exceed 1 Rationale for change: Observed rates cannot exceed 1 (the value where the numerator is equal to the denominator). Since risk adjusted and smoothed rates should be reflective of actual rates, they also should not exceed 1. The upper limit of 1 is imposed in cases where, under normal circumstances, the risk adjustment or smoothing function results in a rate that slightly exceeds 1.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Specification/ Calculation	Description: Updated the Clinical Classifications Software Refined (CCSR) for ICD-10-CM Diagnoses Tool to reflect fiscal year 2021 coding and updated categories used in risk-adjustment Rationale for change: Based on a clinical review of the diagnoses included in several of the CCSR categories, such as Factors Influencing Health Status (FAC), were too heterogeneous to be clinically interpretable as risk factors or included a significant amount of Z codes, which are not coded consistently across hospitals.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Specification/ Calculation	Description: Added an option for users to specify the length and data type of the hospital identifier (HOSPID) found on the input discharge data. The default is numeric length 5. Rationale for change: Allowing users to specify the attributes of the hospital identifier provides flexibility for users to calculate hospital-level risk-adjusted rates when run on a limited set of discharge records

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v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 09, PDI 10, PDI 12, NQI 03	Software/ Documentation	Description: Removed risk-adjustment variable for Adverse Neonatal Conditions (ODC904) from the output of the PDI_ALL_MEASURES.sas program Rationale for change: Given that this variable is now fully captured by AHRQ's Clinical Classifications Software Refined (CCSR) for ICD-10-CM Diagnoses Tool (https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/ccs_refined.jsp), there is no need to construct/rename to a separate variable.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Software/ Documentation	Description: Implemented an option in the CONTROL program to address discharges with an ICD-10-CM diagnosis for COVID-19 and their use in measure calculation. Users have the option to: 1) Exclude COVID discharges from the numerator and denominator 2) Take no action with respect to COVID discharges 3) Include only COVID discharges in the numerator and denominator. The recommended and default choice is to exclude COVID-19 discharges. For options 2 and 3 above, the software suppressed expected rates, risk-adjusted rates, smoothed rates, and composites for hospital indicators. Rationale for change: Because the 2018 HCUP reference population pre-dates the public health emergency, it does not provide an accurate representation of COVID-19 discharges that is required for risk-adjustment. Therefore, users can only calculate expected, risk-adjusted, smoothed rates, or composites when they select the default option to exclude COVID-19 discharges.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Specification/ Calculation	Description: Included AHRQ's Elixhauser Comorbidity Software Refined for ICD-10-CM Diagnoses Tool as a core component of the PDI module Rationale for change: Select Elixhauser Comorbidity Software Refined comorbidities (https://www.hcup- us.ahrq.gov/toolssoftware/comorbidityicd10/comorbidity_icd10.jsp) are included in certain risk-adjustment models.

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v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Software/ Documentation	Description: For hospital-level measures, the expected value, EHAT, is now capped at a value of 0.99 Rationale for change: The probability of an event is naturally bounded by 0 and 1 and is unlikely to be exactly 1; therefore, to avoid a negative value when calculating variance, an
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, NQI 03	Software/ Documentation	upper bound for EHAT at 0.99 was implemented. Description: Expected rates, risk-adjusted rates, smoothed rates, and composites are suppressed in certain strata for hospital level indicators. Rationale for change: AHRQ SAS QI software users continue to have the option to produce stratified rates. Because age, gender, age in days, and birth weight are used in risk adjustment models, it is inappropriate to produce risk-adjusted rates for any stratum that includes these variables.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 08, PDI 09	Specification/ Calculation	Description: For users that set PRDAY = 0 in the CONTROL program, the PDI module suppresses expected rates, risk-adjusted rates, smoothed rates, and composites for measures that use PRDAYn information. Rationale for change: PRDAY information is required for some indicators in PDI module measure specifications. Users should set the PRDAY macro variable to '0' in the PDI CONTROL program when PRDAYn is missing or incomplete on the input data.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 08	Specification/ Calculation	Description: Changed measure name from PDI 08 Perioperative Hemorrhage or Hematoma Rate to PDI 08 Postoperative Hemorrhage or Hematoma Rate Rationale for change: ICD-10-CM codes no longer allow preoperative or intraoperative hemorrhage or hematoma.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 09	Specification/ Calculation	Description: Removed the denominator exclusion for MDC 5 diseases/disorders of the circulatory system

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				Rationale for change: Denominator exclusions should exclude cases that are false positives, cases with doubtful preventability, or other cases with face validity concerns. To refocus the QIs on quality improvement, several exclusions that do not meet these criteria are removed from denominator. This variation in risk is handled through risk adjustment.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 09	Specification/ Calculation	Description: Remove logic where discharges with missing PRDAY information were, by default, assigned as PDI 09 numerator events given other denominator criterion were satisfied Rationale for change: The logic overestimated the events for this measure.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12	Software/ Documentation	Description: Categorize discharges as surgical discharges using fiscal year dependent code sets SURGI2R or SURGI2R_PREV Rationale for change: Since Medicare Severity Diagnosis Related Groups (MS-DRGs) are fiscal year dependent, this functionality allows certain MS-DRGs to be categorized as surgical DRGs for fiscal years 2020 and prior.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 12	Fiscal Year Coding	Description: Cancer diagnosis codes without leukemia/lymphoma (CANITD) 31 codes added Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 05	Fiscal Year Coding	Description: Potentially trans-pleural cardiac procedures (CARDSIP) 63 codes added, 7 codes removed Rationale for change: Annual coding updates.
v2021	July 2021	PDI 08	Fiscal Year Coding	Description: Coagulation disorders diagnosis codes (COAGDID)

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(ICD-10) for SAS QI & WinQI				Added 2 codes Rationale for change:
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, PDI 14, PDI 15, PDI 16, PDI 18, NQI 03	Specification/ Calculation	Annual coding updates. Description: New setname for COVID diagnosis codes for use from Q2 2020 on (COVIDD) used to identify cases for optional exclusion of all hospital indicators. The CONTROL program flag COVID_19 defines the optional exclusion. Rationale for change: Added setname to capture newly released diagnosis codes for documenting cases of COVID-19.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12, PDI 14, PDI 15, PDI 16, PDI 18, NQI 03	Specification/ Calculation	Description: New setname for COVID diagnosis codes for use during Q1 2020 (COVIDQ120D) used to identify cases for optional exclusion of all hospital indicators. The CONTROL program flag COVID_19 defines the optional exclusion. Rationale for change: Added setname to capture newly released diagnosis codes for documenting cases
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 10	Fiscal Year Coding	of COVID-19. Description: MS-DRG codes for surgical class 1 (DRG1C) Added 5 codes, Removed 6 codes Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 10	Fiscal Year Coding	Description: MS-DRG codes for surgical class 2 (DRG2C) Added 5 codes, Removed 1 code Rationale for change: Annual coding updates.

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v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 10	Fiscal Year Coding	Description: MS-DRG codes for surgical class 3 (DRG3C) Added 2 codes Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 10	Fiscal Year Coding	Description: MS-DRG codes for surgical class 9 (DRG9C) Added 1 code Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 10	Fiscal Year Coding	Description: MS-DRG to Modified DRG (DRGF2T) Added 12 codes, Changed 11 code result values Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 08	Fiscal Year Coding	Description: Control of hemorrhage and evacuation of hematoma procedures (HEMOTH2P) Added 8 codes Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 10, PDI 12, PDI 18	Fiscal Year Coding	Description: Cirrhosis diagnosis codes (HEPFA2D) Removed 1 code Rationale for change: Annual coding updates.
v2021	July 2021	PDI 10, PDI 12, PDI 18	Fiscal Year Coding	Description: Intermediate-risk immunocompromised state diagnosis codes (IMMUITD)

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(ICD-10) for SAS QI & WinQI				Added 12 codes Rationale for change:
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 10, PDI 12, PDI 18	Fiscal Year Coding and Specification/ Calculation	Annual coding updates. Description: High-risk immunocompromised state diagnosis codes (IMMUNHD) Added 59 codes, Removed 28 codes Rationale for change: Annual coding updates and measure refinements to address patient remission status.
v2021 (ICD- 10) for SAS QI & WinQI	July 2021	PDI 10	Fiscal Year Coding	Description: Infection diagnosis codes (INFECID) Added 145 codes Rationale for change: Annual coding updates.
v2021 (ICD- 10) for SAS QI & WinQI	July 2021	PDI 09	Specification/ Calculation	Description: Lung cancer procedure codes (LUNGCIP) Added 44 codes Rationale for change: Add procedure codes for resections and excisions involving the bronchi, diaphragm, rib cage, or chest wall to the LUNCIP denominator exclusion. These procedures may result in prolonged intubations or reintubations
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 09	Specification/ Calculation	Description: Lung transplant procedure codes (LUNGTRANSP) Added 3 codes Rationale for change: Add heart transplant codes to the LUNGTRANSP denominator exclusion. These procedures may result in prolonged intubations or reintubations.
v2021	July 2021	PDI 01, PDI 09	Fiscal Year	Description:

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(ICD-10) for SAS QI & WinQI			Coding	MS-DRG TO MDC (MDCF2T) Added 12 codes Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 12	Fiscal Year Coding	Description: Medical discharge MS-DRGs (MEDIC2R) Added 4 codes, Changed 10 code result values Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 09	Fiscal Year Coding	Description: Neuromuscular disorders diagnosis codes (NEUROMD) Added 5 codes Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 08, PDI 09, PDI 10, NQI 03	Specification/ Calculation Fiscal Year Coding	Description: Operating room procedure codes (ORPROC) Added 2901 codes Rationale for change: Coding updates based on clinical review, in addition to updates due to fiscal year coding changes and code retirements.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, NQI 03	Fiscal Year Coding	Description: Added POA exempt codes for update to V38 (POAXMPT_V38FMT). New codes are defined by CMS at https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalAcqCond/Coding Rationale for change: Annual coding updates.
v2021	July 2021	PDI All	Fiscal Year Coding	Description: Updated County Poverty Deciles - Based on Census Data (POVCAT) mapping

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(ICD-10) for SAS QI & WinQI				and coefficients using 2018 U.S. Census Small Area Income and Poverty Estimates Changed/Updated 1475 code labels
				Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI &	July 2021	PDI All	Specification/ Calculation	Description: Updated mapping from ICD-10-PCS to Procedure Class (PRCLASS) v2021.1
WinQI				Rationale for change: PRCLASS is defined by the HCUP Procedure Class Tool (https://www.hcup-us.ahrq.gov/toolssoftware/procedureicd10/procedure icd10.jsp). PRCLASS is used to define hospital level risk-adjustment variables
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 09	Specification/ Calculation	Description: Esophageal surgery procedure codes (PRESOPP) Added 6 codes
				Rationale for change: Added codes to address esophageal replacement which may result in prolonged intubations or reintubations.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01	Fiscal Year Coding	Description: Spine surgery procedure codes (SPINEP) Added 2 codes
				Rationale for change: Annual coding updates.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10, PDI 12	Fiscal Year Coding	Description: Surgical discharge MS-DRGs (SURGI2R) Added 11 codes, removed 3 codes
				Rationale for change: Annual coding updates.
v2021	July 2021	PDI 01, PDI 05, PDI 08, PDI 09, PDI 10,	Specification/ Calculation	Description: New setname for Fiscal Year Dependent Surgical MS-DRGs for prior to FY2021

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(ICD-10) for SAS QI & WinQI		PDI 12		Rationale for change: The Centers for Medicare & Medicaid Services (CMS) identified MS-DRGs 014, 016, and 017 as Medical instead of Surgical in FY 2021. This change is reflected in AHRQ's v2021 software (Appendix E: SURGI2R; Appendix C: MEDIC2R). For discharges prior to October 1, 2020, the QI software automatically uses both SURGI2R and SURGI2R_PREV (Appendix E) to identify records in these three MS-DRGs as Surgical instead of Medical, ensuring consistency with CMS' contemporaneous classification.
v2021 (ICD-10) for SAS QI & WinQI	July 2021	PDI 05	Fiscal Year Coding Specification/ Calculation	Description: Thoracic surgery procedure codes (THORAIP) Added 924 codes, removed 308 codes Rationale for change: Annual coding updates, and coding enhancements to address exclusion criteria and remove overlap with setname CARDSIP.
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI All	Specification/ Calculation	Description: Delete records where DRG is assigned the value 999 Rationale for change: DRG 999 is assigned to records that are considered ungroupable based on information provided on the discharge record.
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI All	Specification/ Calculation	Description: Add an option to specify whether observed to expected (O-E) ratio smoothing is calibrated to the reference population or the user's data. The default and recommended option is to the reference population. Rationale for change: Allows large health care systems or states to calibrate expected QI rates within the system.
v2020 (ICD-10) for SAS QI &	July 2020	PDI All	Fiscal Year Coding	Description: Updated MS-DRG to MDC mapping (MDCF2T).

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WinQI				Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI All	Specification/ Calculation	Description: Included AHRQ's Clinical Classifications Software Refined (CCSR) for ICD-10-CM Diagnoses Tool as a core component of the PDI module Rationale for the change The CCSR (https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/ccs_refined.jsp) is used for the calculation of variables used in risk-adjustment and provides consistency in the programming approach across modules
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 01, 05, 08, 09, 10, 12, NQI 03	Fiscal Year Coding	Description: Added POA exempt codes for the fiscal year 2020 update to V37 (POAXMPT_V37FMT). New codes are defined by CMS at https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalAcqCond/Coding Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 14, 15, 16, 18, 90, 91, 92	Fiscal Year Coding	Description: Updated County Poverty Deciles (POVCAT) mapping Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 01, 05, 08, 09, 10, 12, NQI 03	Specification/ Calculation	Description: Removed the small number of numerator exclusions described as "otherwise qualifying for the numerator/denominator criteria" in previous versions of the software. Rationale for change: POA dependent exclusions were switched from numerator to strictly denominator exclusions. Associated variables remain in the program in case they are needed for future for POA exclusions.
v2020 (ICD-10) for	July 2020	PDI 01, 05, 08, 10, 12, NQI 03	Specification/ Calculation	Description: New alternative transfer variable

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SAS QI & WinQI				Rationale for the change Variable added to include alternative transfer variable as input to risk-adjustment
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 01, 05, 09, 10, 12, NQI 03	Specification/ Calculation	Description: Added diagnosis codes Z9911, Z9912, J95850 and J95859 for Ventilator Dependence (ODC_VEN)
				Rationale for change: Ventilator Dependence diagnosis are used to in the calculation of variables used in risk-adjustment
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 01, 05, 08, 09, 10, 12	Fiscal Year Coding	Description: Updated MS-DRGs to Modified DRG mapping (DRGF2T) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 01, 05, 08, 09, 10, 12	Fiscal Year Coding	Description: Added DRGs 319 and 320 to Surgical DRGs (SURGI2R) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 01, 10	Specification/ Calculation	Description: Added mapping from ICD-10-PCS to Procedure Class (PRCLASS) Rationale for change: PRCLASS is defined by the HCUP Procedure Class Tool (https://www.hcup-us.ahrq.gov/toolssoftware/procedureicd10/procedure_icd10.jsp). PRCLASS is used to define hospital level risk-adjustment variables new in v2020
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 08, 09, 10 NQI 03	Fiscal Year Coding	Description: Updated Operating Room procedure codes (ORPROC) Rationale for change: Annual coding update

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v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 10, 12, 18	Fiscal Year Coding	Description: Updated High-risk Immunocompromised State procedure codes (TRANSPP) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 10, 12, 18	Fiscal Year Coding	Description: Added codes D8130, D8131, D8132 and D8139 to High-Risk Immunocompromised State diagnosis codes (IMMUNHD) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 02	Specification/ Calculation	Description: Removed Anoxic Brain Damage diagnosis codes (ANOXBD), Severe Burn diagnosis codes (BURNDX), Continuous Mechanical Ventilation procedure codes (CMVENP), Pressure Ulcer Stage diagnosis codes (DECUBVD), Exfoliative Skin Disorder Diagnosis codes (EXFOLIATXD), Hemiplegia, Paraplegia, or Quadriplegia diagnosis codes (HEMIPID), and Spina Bifida or Anoxic Brain Damage diagnosis codes (SPINABD) Rationale for change: PDI 02 was retired in v2019, these codes are no longer relevant
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 03	Software/ Documentation	Description: Removed Retained Surgical Item or Unretrieved Device Fragment diagnosis codes (FOREIID) Rationale for change: PDI 03 was retired in v2019, these codes are no longer relevant
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 05	Fiscal Year Coding	Description: Added codes J860 and J869 to Pleural Effusion diagnosis codes (PLEURAD) and removed A150 Rationale for change: Annual coding update

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v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 05	Fiscal Year Coding	Description: Updated Cardiac procedure codes (CARDSIP) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 05	Fiscal Year Coding	Description: Updated Thoracic Surgery procedure codes (THORAIP) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 08	Fiscal Year Coding	Description: Added codes 5A15A2F, 5A15A2G and 5A15A2H to Extracorporeal Membrane Oxygenation (ECMO) procedure codes (ECMOP) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 08	Fiscal Year Coding	Description: Updated Control of Perioperative Hemorrhage and Evacuation of Hematoma procedure codes (HEMOTH2P) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 09	Fiscal Year Coding	Description: Added codes Z9911 and Z9912 to Acute Respiratory Failure diagnosis codes (ACURF3D) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 09	Specification/ Calculation	Description: New setname added, Tracheostomy Status diagnosis (TRACHID) Rationale for change:

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				Added patients with a history of tracheostomy to the list of excluded neurologic diagnoses. Currently, most coders do not code two related codes together under the "Excludes1" rule (see page 11 of http://www.cdc.gov/nchs/data/icd/10cmguidelines_2017_final.pdf) such as chronic and acute respiratory failure. In the case of PDI 09, coders are instructed not to code chronic and respiratory failure separately which is needed to indicate if patients are admitted with chronic respiratory failure POA but then later develop acute respiratory failure post operatively. However, an exception to this rule is when the two conditions are unrelated (as in the example above) which would permit coders to code these conditions separately. These coding guidelines are relatively new and may take a while for them to be widely used by coders in the field. As a result, adding a code for dependence on ventilator status to identify (and exclude) patients who need ongoing ventilator support to manage their chronic respiratory failure. However, this approach has a major drawback in that it is POA exempt and cannot differentiate between patients who are admitted on ventilator support or those who require ventilator-support after surgery and were discharged in this same state.
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 09	Fiscal Year Coding	Description: Updated Esophageal Resection procedure codes (PRESOPP) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 09	Fiscal Year Coding	Description: Added codes to Laryngeal, Pharyngeal, Nose, Mouth and Pharynx surgery procedure codes (NUCRANP) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 09	Specification/ Calculation	Description: New setname for Malignant Hyperthermia Due to Anesthesia, initial encounter (MALHYPD) added as a denominator exclusion Rationale for change: Prolonged intubation is part of the treatment for malignant hyperthermia due to anesthesia

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v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 09	Fiscal Year Coding	Description: Updated Lung cancer procedure codes (LUNGCIP) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 10	Fiscal Year Coding	Description: Added MDRGs 0536, 0541, 0542, 0543, 0610 to Surgical Class 1 (DRG1C) and removed MDRGs 0599 and 0899 Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 10	Fiscal Year Coding	Description: Added MDRG codes 1413, 1414 and 8897 to and removed codes 1405 and 8899 from Surgical Class 2 (DRG2C) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 10	Fiscal Year Coding	Description: Added MDRG 1899 to Surgical Class 4 (DRG4C) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 10	Fiscal Year Coding	Description: Added MDRG 8899 to Surgical Class 9 (DRG9C) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 10	Fiscal Year Coding	Description: Added code T8144XA to Sepsis diagnosis codes (SEPTI2D) Rationale for change: Annual coding update

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v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 10	Fiscal Year Coding	Description: Updated Infection diagnosis codes (INFECID) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 11	Software/ Documentation	Description: Removed Abdominopelvic Surgery, Open Approach, procedure codes (ABDOMIPOPEN), Abdominopelvic Surgery, Other Approach, procedure codes (ABDOMIPOTHER), Disruption of Internal Operation (Surgical) Wound diagnosis codes (ABWALLCD), Reclosure of Postoperative Disruption of the Abdominal Wall procedure codes (RECLOIP), Gastroschisis or Umbilical Hernia Repair in Newborns (Omphalacele Repair) procedure codes (REPGAST) and Umbilical Hernia diagnosis codes (UMBHERND) Rationale for change: PDI 11 was retired in v2019, these codes are no longer relevant
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 13	Software/ Documentation	Description: Removed Transfusion Reaction diagnosis codes (TRANFID) Rationale for change: PDI 13 was retired in v2019, these codes are no longer relevant
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PDI 17	Software/ Documentation	Description: Removed Appendicitis diagnosis codes (ACSAP2D) and Perforations or Abscesses of Appendix diagnosis codes (ACSAPPD) Rationale for change: PDI 17 was retired in v2019, these codes are no longer relevant
v2020 (ICD-10) for SAS QI & WinQI	July 2020	NQI 02	Specification/ Calculation	Description: Removed Anencephaly, Polycystic Kidney, Trisomy 13, and Trisomy 18 diagnosis codes (NEOMTDX) Rationale for change:

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				NQI 02 was removed in v2019, these codes are no longer relevant
v2020 (ICD-10) for SAS QI & WinQI	July 2020	NQI 03	Fiscal Year Coding	Description: Added codes B9621, B9622 and B9623 to Staphylococcal or Gram-Negative Bacterial Infection diagnosis codes (BSI3DX) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	NQI 03	Fiscal Year Coding	Description: Added code T8144XA to Sepsis or Bacteremia diagnosis codes (BSI4DX) Rationale for change: Annual coding update
v2020 (ICD-10) for SAS QI & WinQI	July 2020	PQI 09	Specification/ Calculation	Description: Removed Birth Weight Less than 2,500 Grams diagnosis codes (ACSLBWD) Rationale for change: PQI 09 was retired from the PDI module in v2019, these codes are no longer relevant
v2019 (ICD-10) for SAS QI & WinQI	August 2019	NQI 01	Specification/ Calculation	Description: Indicator removed from software and documentation. Rationale for the change: Indicator retired in v2019.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	NQI 02	Specification/ Calculation	Description: Measure NQI 02, Neonatal Mortality rate, is being suppressed in SAS and WinQI. Rationale for the change: Measure is being suppressed due in part to discrepancies in how states define a live birth. CA and several other states, for example, do not have the qualifying language distinguishing a heartbeat from transient cardiac contractions, and distinguishing respirations from fleeting respiratory efforts or gasps. In some cases, induced terminations of pregnancy are misclassified as live births because there were "transient cardiac contractions" and "fleeting respiratory efforts or gasps." In addition, NQI 02 does not offer a true neonatal mortality rate, because

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				there is no linkage of records for patients who are transferred from one hospital to another, or from a hospital to another setting of care.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	NQI 03	Fiscal Year Coding	Description: Updated list of operating room procedure codes (ORPROC). Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 01, 05, 08, 09, 10, 12	Fiscal Year Coding	Description: Updated list of surgical DRGs and descriptions (SURGI2R). In addition, removed ICD-9-CM/PCS specific MS-DRGs. Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 01, 05, 08, 09, 10, 12	Fiscal Year Coding	Description: MDCF2T changed to remap select MS-DRGs for MDC 14. Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 01, 05, 12	Fiscal Year Coding	Description: Updated list of medical DRGs and descriptions. Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 02	Specification/Cal culation	Description: Indicator removed from software and documentation. Rationale for the change: Indicator retired in v2019.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 03	Specification/Cal culation	Description: Indicator removed from software and documentation. Rationale for the change: Indicator retired in v2019.

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v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 05	Fiscal Year Coding	Description: Updated cardiac surgery procedure lists (CARDSIP). Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 05	Fiscal Year Coding	Description: Updated thoracic surgery procedure codes (THORAIP). Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 06	Specification/Cal culation	Description: Indicator removed from software and documentation. Rationale for the change: Indicator retired in v2019.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 07	Specification/Cal culation	Description: Indicator removed from software and documentation. Rationale for the change: Indicator retired in v2019.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 08	Fiscal Year Coding	Description: Updated codes for control of perioperative hemorrhage and evacuation of hematoma procedures (HEMOTH2P), Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 08, 09, 10	Fiscal Year Coding	Description: Updated list of operating room procedure codes (ORPROC). Rationale for the change: Measure maintenance and annual coding updates.
v2019	August	PDI 09	Fiscal Year	Description:

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(ICD-10) for SAS QI & WinQI	2019		Coding	Updated neuromuscular disorders diagnosis codes (NEUROMD). Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 10	Fiscal Year Coding	Description: Updated list of infection diagnoses and operating room procedure codes (INFECID). Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 11	Fiscal Year Coding	Description: Added codes T85.71XA to the infection diagnosis codes (INFECID). Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 11	Specification/Cal culation	Description: Indicator removed from software and documentation. Rationale for the change: Indicator retired in v2019.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 12	Fiscal Year Coding	Description: Updated codes for cancer diagnosis codes (CANITD). Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 13	Specification/Cal culation	Description: Indicator removed from software and documentation. Rationale for the change: Indicator retired in v2019.
v2019 (ICD-10)	August 2019	PDI 17	Specification/Cal culation	Description: Indicator removed from software and documentation.

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for SAS QI & WinQI				Rationale for the change: Indicator retired in v2019.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI 19	Specification/Cal culation	Description: Indicator removed from software and documentation. Rationale for the change: Indicator retired in v2019.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI	Specification/ Calculation	Description: Removed formats no longer used by software: ACCOPDD, ACDIALD, ACDIAUD, ACLEA2D, ACSBA2D, ACSBACD, ACSCARP, ACSHY2D, ACSHYPD, ACSLEAD, ACSLEAP, CRENLFD, DIALY2P, HYPERID, IMMUNID, IMMUNIP, M1AREA, M2AREA, M3AREA, MRTCHFD and PHYSIDB. Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI	Software/ Documentation change	Description: Removed PDI_PROV_RISKADJ, PDI_PROV_COMPOSITE, PDI Regvars, PDI composite arrays, PDI signal variance arrays, and RACHS programs. Rationale for the change: Hospital-level PDIs are no longer risk-adjusted, and the composite is also retired.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI	Specification/ Calculation	Description: Added POA exempt codes for FY 2019 and modified corresponding macros. Rationale for the change: Measure maintenance and annual coding updates.
v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI	Specification/ Calculation	Description: Updated AGE_SEX risk-adjustment coefficients and removed all other coefficient combinations. Rationale for the change: The hospital-level QI software only produces risk-adjusted rates with age and sex data starting with v2019

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v2019 (ICD-10) for SAS QI & WinQI	August 2019	PDI All	Fiscal Year Coding	Description: Added MS-DRG codes for MDC 14. Rationale for the change: Measure maintenance and annual coding updates.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	NQI 01, PDI 05	Fiscal Year Coding	Description: Added ICD10-PCS codes to the existing denominator exclusion for cardiac procedure (CARDSIP). Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	NQI 01, PDI 05	Fiscal Year Coding	Description: Added ICD10-PCS codes to the existing denominator exclusion for Thoracic surgery (THORAIP). Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	NQI 01, PDI 05	Specification/ Calculation	Description: Removed ICD10-PCS codes from the existing denominator exclusion for Thoracic surgery (THORAIP). Rationale for the change: Esophageal procedures unlikely to cause non-preventable pneumothorax (i.e., perforation of the esophagus is a preventable complication).
v2018 (ICD-10) for SAS QI & WinQI	April 2018	NQI 01, PDI 05	Specification/ Calculations	Description: Removed ICD10-PCS codes from the existing denominator exclusion for Thoracic surgery (THORAIP) Rationale for the change: Insertions of devices by this approach into the tracheobronchial tree are very low risk, not included in this specification.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	NQI 01, PDI 05	Specification/ Calculations	Description: Removed ICD10-PCS code Introduction of Other Gas into Peritoneal Cavity, Percutaneous Approach (3E0M3SF) from the existing denominator exclusion for Thoracic surgery (THORAIP). Rationale for the change: Unlikely to result in non-preventable pneumothorax.

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v2018 (ICD-10) for SAS QI & WinQI	April 2018	NQI 01, PDI 05	Specification/ Calculations	Description: Moved all ICD10-PCS codes from the existing denominator exclusion for Lung or pleural biopsy (LUNGBIP) to Thoracic surgery (THORAIP). Rationale for the change: Codes moved from LUNGBIP to THORAIP due to redundancy.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	NQI 01, PDI 05	Specification/ Calculations	Description: Moved all ICD10-PCS codes from the existing denominator exclusion for Diaphragmatic surgery repair (DIAPHRP) to Thoracic surgery (THORAIP). Rationale for the change: Codes moved from DIAPHRP to THORAIP due to redundancy.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	NQI 02	Specification/ Calculations	Description: Measure NQI 02, Neonatal Mortality rate, is being suppressed in SAS and WinQI. Rationale for the change: Measure is being suppressed due in part to discrepancies in how states define a live birth. CA and several other states, for example, do not have the qualifying language distinguishing a heartbeat from transient cardiac contractions, and distinguishing respirations from fleeting respiratory efforts or gasps. In some cases, induced terminations of pregnancy are misclassified as live births because there were "transient cardiac contractions" and "fleeting respiratory efforts or gasps." In addition, NQI 02 does not offer a true neonatal mortality rate, because there is no linkage of records for patients who are transferred from one hospital to another, or from a hospital to another setting of care.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	NQI 03, PDI 09	Fiscal Year Coding	Description: Added ICD10-PCS codes to the existing denominator inclusion for OR Procedures (ORPROC). Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	NQI 03, PDI 09	Specification/ Calculations	Description: Removed ICD10-PCS codes from the existing denominator inclusion for OR Procedures (ORPROC). Rationale for the change: Clinical Specification: No longer OR procedure per CMS.

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v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 01	Fiscal Year Coding	Description: Added ICD10-PCS codes to the existing denominator exclusion for Spine surgery (SPINEP). Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 01	Specification/ Calculations	Description: Removed ICD10-PCS codes Extirpation of Matter from Epidural Space, Open Approach (00C30ZZ), Extirpation of Matter from Epidural Space, Percutaneous Approach (00C33ZZ) and Extirpation of Matter from Epidural Space, Percutaneous Endoscopic Approach (00C34ZZ) from the existing denominator exclusion for Spine surgery (SPINEP). Rationale for the change: Revised description (now specifies 'intracranial') no longer applies to spine.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 02	Fiscal Year Coding	Description: Added ICD10-CM codes for Hypoxic ischemic encephalopathy [HIE], unspecified, P9160, Moderate hypoxic ischemic encephalopathy [HIE], P9162, Severe hypoxic ischemic encephalopathy [HIE], P9163, to existing denominator for inclusion for Hypoxic ischemic encephalopathy [HIE], unspecified (ANOXBD); tech correction moved from HEMIPID. Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 08	Fiscal Year Coding	Description: Added ICD10-PCS codes to the existing denominator inclusion for post- operative hemorrhage or Miscellaneous hemorrhage hematoma-related procedure (HEMOTH2P). Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 08	Specification/ Calculations	Description: Removed ICD-10 PCS codes Drainage of Pericardial Cavity, PercutaneousApproach, Diagnostic (0W9D3ZX) and Drainage of Pericardial Cavity, PercutaneousEndoscopic Approach, Diagnostic (0W9D4ZX) from the existing denominator inclusion for post-operative hemorrhage or Miscellaneous hemorrhage hematoma-related procedure (HEMOTH2P). Rationale for the change:

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				Diagnostic procedures unrelated to hemorrhage/hematoma.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 08	Specification/ Calculations	Description: Removed ICD-10 PCS codes 0VBF0ZZ,0VBF3ZZ,0VBF4ZZ,0VBG0ZZ,0VBG3ZZ,0VBG4ZZ,0VBH0ZZ,0 VBH3ZZ,0VBH4ZZ from the existing denominator inclusion for post-operative hemorrhage or Miscellaneous hemorrhage hematoma-related procedure (HEMOTH2P).
				Rationale for the change: Excision of closely related structures (e.g., prostate, scrotum, testes, epididymis) not included in specification.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 08	Specification/ Calculations	Description: Removed ICD-10 PCS codes Destruction of Right Inner Ear, Open Approach (095D0ZZ) and Destruction of Left Inner Ear, Open Approach (095E0ZZ) from the existing denominator inclusion for post-operative hemorrhage or Miscellaneous hemorrhage hematoma-related procedure (HEMOTH2P).
				Rationale for the change: Inner ear unlikely location for postoperative hemorrhage requiring destruction.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 08	Specification/ Calculations	Description: Removed ICD-10 PCS codes 099D00Z, 099D0ZZ, 099E00Z, 099E0ZZ from the existing denominator inclusion for post-operative hemorrhage or Miscellaneous hemorrhage hematoma-related procedure (HEMOTH2P).
				Rationale for the change: Inner ear unlikely location for postoperative hemorrhage requiring drainage.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 08	Specification/ Calculations	Description: Removed ICD-10 PCS codes Extirpation of Matter from Right Inner Ear, Open Approach (09CD0ZZ) and Extirpation of Matter from Left Inner Ear, Open Approach (09CE0ZZ) from the existing denominator inclusion for post-operative hemorrhage or Miscellaneous hemorrhage hematoma-related procedure (HEMOTH2P). Rationale for the change:
				Inner ear unlikely location for postoperative hemorrhage requiring extirpation.
v2018 (ICD-10) for SAS QI &	April 2018	PDI 09	Fiscal Year Coding	Description: Added ICD10-CM codes for Juvenile dermatomyositis with respiratory involvement, M3301, Other dermatomyositis with respiratory involvement, M3311, Polymyositis with respiratory involvement M3321,

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WinQI				Dermatopolymyositis, unspecified with respiratory involvement M3391 to the existing denominator exclusion for Neuromuscular disorders (NEUROMD); Replaces ICD-10 CM Codes M3302, 3312, 3322,3392 due to Clinical Specification: Myopathy WITH respiratory involvement is essential for this exclusion.
				Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 09	Fiscal Year Coding	Description: Added ICD10-PCS codes to the existing denominator exclusion for craniofacial anomalies (NUCRANP). Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 09	Specification/ Calculations	Description: Removed ICD10-PCS codes from the existing denominator exclusion for craniofacial anomalies (NUCRANP). Rationale for the change: Corresponding codes for insertion of monitoring, infusion, or intraluminal devices into tracheobronchial tree not included in specification.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 09	Specification/ Calculations	Description: Removed ICD10-PCS codes 0DQ50ZZ, 0DQ53ZZ, 0DQ54ZZ, 0DQ57ZZ, 0DQ58ZZ from the existing denominator exclusion for craniofacial anomalies (NUCRANP). Rationale for the change:
	A:1 2019	PDI 10	Fiscal Year	Esophageal procedures usually do not compromise the airway.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	ו ועז וע	Coding	Description: Added ICD10-CM codes for Enterocolitis due to clostridium difficile, not specified as recurrent, A0472, Other dermatomyositis with respiratory involvement, M3311, to existing denominator for exclusion (INFECID).
				Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI &	April 2018	PDI 11	Fiscal Year Coding	Description: Added ICD10-PCS codes to the existing denominator inclusion for abdominopelvic surgery, open approach (ABDOMIPOPEN).

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WinQI				Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 11	Specification/ Calculations	Description: Removed ICD10-PCS codes 0DB10ZX,0DB20ZX,0DT10ZZ,0DT20ZZ from the existing denominator inclusion for abdominopelvic surgery, open approach (ABDOMIPOPEN).
				Rationale for the change: Esophageal procedures involving upper/middle esophagus unlikely to be approached through the abdomen.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 11	Fiscal Year Coding	Description: Added ICD10-PCS codes to the existing denominator inclusion for abdominopelvic surgery, other than open approach(ABDOMIPOTHER). Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 11	Specification/ Calculations	Description: Removed ICD10-PCS codes 0DB13ZX, 0DB14ZX, 0DB14ZZ, 0DB23ZX, 0DB24ZX, 0DB24ZZ, 0DT14ZZ, 0DT24ZZ, 0DW630Z, 0DW632Z, 0DW633Z, 0DW637Z, 0DW63CZ, 0DW63DZ from the existing denominator inclusion for abdominopelvic surgery, other than open approach(ABDOMIPOTHER). Rationale for the change:
				Esophageal procedures involving upper/middle esophagus unlikely to be approached through the abdomen.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 11	Specification/ Calculations	Description: Removed ICD10-PCS codes 0DH632Z, 0DH633Z, 0DH63DZ, 0DH63MZ, 0DH63UZ from the existing denominator inclusion for abdominopelvic surgery, other than open approach(ABDOMIPOTHER).
				Rationale for the change: Other esophageal insertion procedures not included in specification, not approached through abdomen.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 11	Specification/ Calculations	Description: Removed ICD10-PCS codes 0DP630Z, 0DP632Z, 0DP633Z, 0DP637Z, 0DP63CZ, 0DP63DZ from the existing denominator inclusion for abdominopelvic surgery, other than open approach(ABDOMIPOTHER).
W' 2022				Rationale for the change:

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				Other esophageal removal procedures not included in specification, not approached through abdomen.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 11	Fiscal Year Coding	Description: Added ICD10-PCS codes 0KRK07Z, 0KRK0JZ, 0KRK0KZ, 0KRK47Z, 0KRK4JZ, 0KRK4KZ, 0KRL07Z, 0KRL0JZ, 0KRL0KZ, 0KRL47Z, 0KRL4JZ, 0KRL4KZ to the existing denominator inclusion for Reclosure procedure (RECLOIP).
				Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 11, PDI 12, PDI 18	Specification/ Calculations	Description: Added ICD10-CM codes for Dermatopolymyositis, unspecified without myopathy, M3393, Juvenile dermatomyositis without myopathy, M3303, Other dermatomyositis without myopathy, M3313, to existing denominator for exclusion (IMMUITD).
				Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 12	Fiscal Year Coding	Description: Added ICD10-CM codes for Aggressive systemic mastocytosis, C9621, Malignant mast cell neoplasm, unspecified, C9620, Malignant mast cell neoplasm, unspecified, C9620, Malignant mast cell neoplasm, unspecified, C9620, to existing denominator for inclusion (CANITD).
				Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 15	Fiscal Year Coding	Description: Added ICD10-CM codes for Acute myocardial infarction, unspecified, E11.10, E11.11, to existing numerator for inclusion for Type 2 diabetes mellitus with ketoacidosis without coma and with coma (ACDIASD).
				Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 16	Fiscal Year Coding	Description: Added ICD10-CM codes for Myocardial infarction type 2, A04.71, A04.72, to existing numerator for exclusion for Enterocolitis due to clostridium difficile, recurrent and non-recurrent (ACBACGD).

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				Rationale for the change: Annual coding update.
v2018 (ICD-10) for SAS QI & WinQI	April 2018	PDI 18	Specification/ Calculation	Description: Removed ICD10-CM code N119, chronic tubulo-interstitial nephritis, unspecified, from the list of urinary tract infection diagnosis codes (ACSUTID) in the numerator. Rationale for the change: The numerator specification for acute urinary tract infections (ACSUTID) identifies discharges that should be treated in an ambulatory setting and should exclude chronic conditions. The diagnosis is included in the numerator exclusion for any-listed ICD-10-CM diagnosis codes for kidney/urinary tract disorder (KIDNEY).
v7.0 (ICD-10) for SAS QI & WinQI	September 2017	NQI 01	Specification/ Calculations	Description: The following codes were removed from THORAIP in ICD-10: 0JH604Z Insertion of Pacemaker, Single Chamber into Chest Subcutaneous Tissue and Fascia, Open Approach 0JH634Z Insertion of Pacemaker, Single Chamber into Chest Subcutaneous Tissue and Fascia, Percutaneous Approach 0JH804Z Insertion of Pacemaker, Single Chamber into Abdomen Subcutaneous Tissue and Fascia, Open Approach 0JH834Z Insertion of Pacemaker, Single Chamber into Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach Rationale for the change: These codes were left in the logic of PDI 05/NQI 01 due to a GEM mapping error and should be removed because they do not put patients at an increased risk of an iatrogenic pneumothorax, unlike diaphragmatic pacemaker insertion procedures that may involve entering the pleural space.
v7.0 (ICD-10)	July 2017 July 2017	NQI 03	Specification/ Calculations	Description: Respecified numerator to require an organism code only for diagnoses without an organism integrated into the code. Rationale for the change: P36 codes (except P36.8) have an organism integrated into the code, and do not allow for a separate organism code. The former definition would miss a majority of neonatal sepsis cases. Description:

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			Calculations	Removed redundant exclusion for sepsis.
				Rationale for the change: All codes are included in a separate exclusion for sepsis for ICD-10. (BSI4DX).
v7.0 (ICD-10)	July 2017	NQI 03	Specification/Cal culations	Description: Reduce the length of stay exclusion from < 7 days to < 3 days.
				Rationale for the change: This change harmonizes with The Joint Commission measure of neonatal sepsis.
v7.0 (ICD-10)	July 2017	PDI 01	Specification/Cal culation	Description: Updated codes for spine procedures for existing denominator exclusion.
				Rationale for the change: Annual coding update.
v7.0 (ICD-10)	July 2017	PDI 02	Specification/Cal culation	Description: An exclusion for severe burns (≥20% body surface area) was added to the denominator for the ICD-10 version of PDI02.
				Rationale for the change: Patients with severe burns are at an increased risk for skin breakdown and already receive intensive skin care as a result of their burn-related injury. Despite best efforts, progression to stage III or IV pressure ulcers may be largely unpreventable, which is inconsistent with the intent of PDI02 to capture preventable hospital-acquired pressure ulcers.
v7.0 (ICD-10)	July 2017	PDI 02	Specification/Cal culation	Description: PDI 02 denominator exclusions were removed for the following procedures and conditions in ICD-10: pedicle graft procedures, and major skin disorders. Exclusions for patients admitted from acute hospitals or SNFs/ICFs were also removed in the ICD-10 version of PDI 02.
				Rationale for the change: Before POA reporting was required, these conditions and procedures potentially associated with pressure ulcers were assumed to indicate that the pressure injury was POA. Therefore, exclusions for these conditions and procedures served as a means of removing events that might not be attributable to hospitals. However, now that POA status is required, these exclusions are redundant and lead to undercounting of hospital-acquired pressure ulcers.
v7.0 (ICD-10)	July 2017	PDI 05	Specification/Cal	Description:

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			culation	The following codes were removed from THORAIP in ICD-10: 0JH604Z Insertion of Pacemaker, Single Chamber into Chest Subcutaneous Tissue and Fascia, Open Approach 0JH634Z Insertion of Pacemaker, Single Chamber into Chest Subcutaneous Tissue and Fascia, Percutaneous Approach 0JH804Z Insertion of Pacemaker, Single Chamber into Abdomen Subcutaneous Tissue and Fascia, Open Approach 0JH834Z Insertion of Pacemaker, Single Chamber into Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach.
				Rationale for the change: These codes were left in the logic of PDI 05 due to a GEM mapping error and should be removed because they do not put patients at an increased risk of an iatrogenic pneumothorax, unlike diaphragmatic pacemaker insertion procedures that may involve entering the pleural space.
v7.0 (ICD-10)	July 2017	PDI 08	Specification/Cal culation	Description: Antineoplastic chemotherapy induced pancytopenia and other disorders impacting coagulation were added to the definition of platelet disorders for the purpose of excluding patients in the ICD-10 version of PDI 08. Rationale for the change:
				As an antiplatelet disorder, patients with antineoplastic chemotherapy induced pancytopenia have a higher risk for a PDI 08 event and should consequently be excluded from the measure. Other disorders can decrease coagulation.
v7.0 (ICD-10)	July 2017	PDI 08	Specification/Cal culation	Description: Updated procedure codes for control of hemorrhage or drainage of hematoma Rationale for the change: Annual coding update.
v7.0 (ICD-10)	July 2017	PDI 08	Specification/Cal culation	Description: Updated codes to capture postprocedural hemorrhage and hematoma Rationale for the change: Annual coding update.
v7.0 (ICD-10)	July 2017	PDI 09	Specification/Cal culation	Description: Revise the list of procedures performed to correct craniofacial anomalies that would involve an inherent risk of airway compromise (addressed by prolonged intubation to protect the airway).

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				Rationale for the change: More specific procedure codes in ICD-10-PCS permit a more tailored denominator exclusion based on the procedures that involve airway compromise requiring extended intubation.
v7.0 (ICD-10)	July 2017	PDI 09	Specification/Cal culation	Description: Removed exclusion for gastrectomy. Rationale for the change: Patients with gastrectomy are not at higher risk for respiratory failure
v7.0 (ICD-10)	July 2017	PDI 09	Specification/Cal culation	Description: Removed logic that required cranial procedures to be accompanied by a craniofacial anomaly dx code. Rationale for the change: Craniofacial anomalies place patients at high risk for extended intubation regardless of the procedure performed.
V7.0 (ICD-10)	July 2017	PDI 10	Specification/Cal culation	Description: Updated codes for infection in existing denominator exclusion. Rationale for the change: Annual coding update
V7.0 (ICD-10)	July 2017	PDI 10	Specification/Cal culation	Description: Removed software code assigning cases to Risk category 5 Rationale for the change: Patients in DRGs in surgical class 4 are not eligible for this measure.
V7.0 (ICD-10)	July 2017	PDI 11	Specification/Cal culation	Description: Added large number of additional abdominopelvic procedure codes to the denominator of PDI11. Rationale for the change: Codes were unintentionally omitted from Version 6.0.
V7.0 (ICD-10)	July 2017 July 2017	PDI 11	Specification/Cal culation Specification/Cal	Description: Updated codes for transplant procedures in existing denominator exclusion. Rationale for the change: Annual coding update. Description:

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			culation	Updated codes for denominator specification of abdominal procedures
				Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI 11	Specification/Cal culation	Description: Updated codes for immunocompromised diagnoses in existing denominator exclusion.
				Rationale for the change: Annual coding update
V7.0 (ICD-10)	July 2017	PDI 11	Specification/Cal culation	Description: Updated codes for immunocompromised diagnoses in existing denominator
				exclusion. Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI 11	Specification/Cal culation	Description: Applied stratification of denominator by open vs. laparoscopic (including all non-open approaches). This resulted in the setname for abdominopelvic procedures (ABDOMI14P) split into two setnames (ABDOMIPOPEN and ABDOMIPOTHER)
				Rationale for the change: Laparoscopic procedures have lower risk of dehiscence
V7.0 (ICD-10)	July 2017	PDI 12	Specification/Cal culation	Description: Updated codes for transplant procedures in existing stratification criterion.
				Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI 12	Specification/Cal culation	Description: Updated codes for immunocompromised diagnoses in existing stratification criterion.
				Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI 12	Specification/Cal culation	Description: Updated codes for immunocompromised diagnoses in existing stratification criterion.

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				Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI 12	Specification/Cal culation	Description: Updated codes for cancer in existing stratification criterion.
				Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI 14	Specification/Cal culation	Description: Updated diagnosis codes for cystic fibrosis and anomalies of respiratory system diagnoses.
				Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI 15	Specification/Cal culation	Description: Removed codes E10.65 and E11.65 from numerator.
				Rationale for the change: Changes in coding clinic rulings has clarified that Type II diabetes with ketoacidosis can be coded with just one diagnosis code. Codes E10.65 and E11.65 now more likely represent non-DKA admissions classifiable to PQI 14 (adults only).
V7.0 (ICD-10)	July 2017	PDI 16	Specification/Cal culation	Description: Updated diagnosis code for gastroenteritis
			culation	Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI 16	Specification/Cal culation	Description: Updated diagnosis code for gastrointestinal disorders
				Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI 18	Specification/Cal culation	Description: Updated codes for transplant procedures in existing denominator exclusion. Rationale for the change:
V 2022				Annual coding update.

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V7.0 (ICD-10)	July 2017	PDI 18	Specification/Cal culation	Description: Updated codes for immunocompromised diagnoses in existing denominator exclusion.
				Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI 18	Specification/Cal culation	Description: Updated codes for immunocompromised diagnoses in existing denominator exclusion.
				Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI 11	Specification/Cal culations	Description: Revised logic for exclusion of abdominopelvic procedures that occur prior to reclosures.
				Rationale for the change: Logic incorrectly included cases with a third abdominopelvic procedure (index, reclosure and a third procedure). This has been fixed.
V7.0 (ICD-10)	July 2017	PDI 11	Specification/Cal culation	Description: Update diagnosis codes for kidney or urinary tract disorder diagnosis codes.
				Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	PDI	Specification/Cal culation	Description: Update ORPROC
				Rationale for the change: Annual coding update.
V7.0 (ICD-10)	July 2017	All modules	Specification/Cal culation	Description: Remove risk adjustment variables and associated code.
				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.
V7.0 (ICD-10)	July 2017	All modules	Specification/Cal culations	Description: Changed structure for one MDRGs: acute myocardial infarction.
				Rationale for the change:

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				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.
V6.0.2 (ICD- 9)	August 2017	All PDI, PQI 09, and PSI 17 module programs	Software /Documentation	Description: Update all program names and internal libref and macros Rationale for the change: Software cleanup
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Corrected reference population to include 34 states (previous estimates mistakenly based on 33 states). Risk adjustment models were recreated, and updated coefficients, signal variance, and reference arrays were included in the revised software Rationale for the change: One state mistakenly omitted from the reference population.
V6.0.2 (ICD-9)	August 2017	PDI All	Software /Documentation	Description: Algorithm added to assign MDC based on principal diagnosis to align with CMS regulation. Rationale for the change: CMS requires MDC to be assigned based on principal diagnosis rather than MS-DRG assignment. Doing so will assign MDCs for discharges assigned to "Pre-MDC" MS-DRGs.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Modified code in PROV_RISKADJ to prevent the SUMWGT warning from being triggered. Rationale for the change: The warning was inconsequential but may be confusing to users.
V6.0.2 (ICD-9)	August 2017	PDI All	Software /Documentation	Description: Removed formats that are no longer used in the PDI algorithms or risk adjustment. Rationale for the change: Software code clean-up.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Implemented PDI 06 risk model described in Jenkins et al. 2016. Development and Validation of an Agency for Healthcare Research and Quality Indicator for Mortality After Congenital Heart Surgery Harmonized With Risk Adjustment for

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				Congenital Heart Surgery (RACHS-1) Methodology. J Am Heart Assoc. 5(5).
				Rationale for the change: This risk model resulted from harmonization across organizations.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Updated risk model with variable selection and coefficients.
				Rationale for the change: Revision of the risk models with updates to the risk model variables and systematic model builds.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: MDRG length increased from 3 to 4 bytes
				Rationale for the change: Fixed error that resulted in truncation of some MDRGs.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Updated signal variance and population rate arrays
				Rationale for the change: Annual update.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Changed structure for two MDRGs: acute myocardial infarction and neonates died or transferred.
				Rationale for the change: Root MS-DRGs are structured by mortality and as mortality may be related to the numerator event, these MS-DRGs were combined with the corresponding MS-DRG for patients discharged alive.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Updated age and age and sex variables, removed interaction effects from provider level variables.
				Rationale for the change: Updates better reflect clinical risk factors related to age and gender.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Updated candidate MDRG variables in risk model, removed specific variables potentially related to the outcomes of interest.
				Rationale for the change:

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				MDRGs may be related to the outcome and should not be adjusted for.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Add external composite weights file Rationale for the change:
				This change was added to improve production processes.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Rename SEXCAT covariates.
				Rationale for the change: Sex covariate renamed from SEXCAT to GENDER_CAT to avoid namespace collision with the strata class variable SEXCAT.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Update POVCAT format used for Area Risk Adjustment
				Rationale for the change: Update POVCAT using census ACS data 5 year estimate using definition in STATA file. Implement in software and provide documentation of variable. Document/notate development program used to update POVCAT
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Update ORPROC list to exclude "0094", "0110", "0116", "0117", "5013"
				Rationale for the change: Remove codes for procedures that are no longer designated as major OR procedures in ORPROC.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Update ORPROC list to add "1481", "1482","1483"
				Rationale for the change:
V6.0.2 (ICD-	August	PDI All	Software	Add codes inadvertently omitted from ORPROC. Description:
9)	2017		/Documentation	Removed formats that are no longer used in the PDI algorithms or risk adjustment.
We a a way				Rationale for the change: Software code clean-up.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Revise exclusion for craniofacial anomalies and head procedures in PDI 09 to

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				exclude any procedures from expanded list of head and neck procedures or any diagnosis of craniofacial anomalies.
				Rationale for the change: Modified exclusion criteria simplify the exclusions.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Removed gastric resection procedures as an exclusion for PDI 09.
				Rationale for the change: Gastric exclusions usually do not result in excess risk.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Fix error that triggers exclusion of patients with umbilical hernia repair only when procedure day is missing.
				Rationale for the change: Software fix.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Update risk variables and coefficients
				Rationale for the change: Annual update
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Added new comorbidity risk categories for obesity (moved into separate variable), ventilator dependence, adverse neonatal conditions.
				Rationale for the change: Clinically significant comorbidity categories added or separated from other comorbidities categories.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Added an alternative definition of transfer-in for newborns.
				Rationale for the change: Newborn admissions receive different point of origin codes than non-newborn admissions.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Updated indicator names in program comments.
				Rationale for the change: Software cleanup.

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V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Updated macros and POVCAT in PQI 09 standalone program.
				Rationale for the change: Annual update
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Updated macros and POVCAT in PSI 17 standalone program.
				Rationale for the change: Annual update.
V6.0.2 (ICD- 9)	August 2017	PDI 08	Software /Documentation	Description: Removed exclusion of records from denominator with hip fracture repair as the first or only OR procedure. With the inclusion of "present on admission" criteria it is no longer necessary to focus on surgical patients to avoid false positives.
				Rationale for the change: Date of hip fracture repair is empirically not associated with reported POA status.
V6.0.2 (ICD- 9)	August 2017	PDI 02	Software /Documentation	Description: Changed exclusion for length of stay from less than 5 days to less than 3 days.
				Rationale for the change: Source of false negatives and long length of stay potentially redundant with "present on admission".
V6.0.2 (ICD- 9)	August 2017	PDI 05	Software /Documentation	Description: Restricted the chest trauma exclusion to rib fractures, traumatic pneumothorax and related chest wall injuries that are associated with "difficult-to-detect" or nascent pneumothorax.
				Rationale for the change: Not all chest traumas are associated with pneumothoraxes.
V6.0.2 (ICD- 9)	August 2017	PDI 09	Software /Documentation	Description: Expanded exclusion for acute posttraumatic or postoperative respiratory failure present on admission to include other etiologies of acute respiratory failure.
				Rationale for the change: Other etiologies of respiratory failure require exclusion.

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V6.0.2 (ICD- 9)	August 2017	PDI 10	Software /Documentation	Description: Removed exclusion for length of stay less than 4 days.
				Rationale for the change: Exclusion less necessary due to present on admission data.
V6.0.2 (ICD- 9)	August 2017	PDI 11	Software /Documentation	Description: Added exclusion for diagnosis of "disruption of internal operation wound" that is present on admission to denominator.
				Rationale for the change: Implementing standard exclusion
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Added 46.97 to the definition of immunocompromised state procedures (Added \$IMMUNIP, exists in \$TRANSPP). IMMUNE flag added to PDI.
				Rationale for the change: Unintentionally omitted in previous versions.
V6.0.2 (ICD- 9)	August 2017	PDI 09	Software /Documentation	Description: Changed name of PRESOPP set name for PDI to PRESOPP_PDI
				Rationale for the change: Distinguish from IQI PRESOPP format.
V6.0.2 (ICD- 9)	August 2017	PDI 02	Software /Documentation	Description: Removed MDC 09 exclusion. Added new exclusion for any diagnosis code POA using new formats, PUXD; EXFOLIATXD, which includes all codes listed on tabs "#272 PU EXCL" and "#272 EXFOLIATION BSA" in specifications.
				Rationale for the change: Removed MDC 09 exclusion. Added focused exclusion for major skin disorders that are associated with higher risk of pressure ulcer.
V6.0.2 (ICD- 9)	August 2017	PDI 09	Software /Documentation	Description: Added exclusion of hospitalizations with any procedure code for lung transplantation. New format, LUNGTRANSP, per tab "294 Lung Transplant" in specifications.
				Rationale for the change: Added exclusion of hospitalizations involving lung transplantation.

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V6.0.2 (ICD- 9)	August 2017	PDI 02	Software //Documentation	Description: Modified logic to also include cases with 2 or more qualifying codes in format DECUBVD, when at least one of those are not POA. Rationale for the change: Modified logic to also include cases with 2 or more qualifying pressure ulcers, when at least one of the ulcers are not POA.
V6.0.2 (ICD-9)	August 2017	PDI All	Software /Documentation	Description: Updated MS-DRG list to account for FY2016 changes. Rationale for the change: Annual update.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Updated MS-DRG list to account for FY2016 changes. Rationale for the change: Annual update.
V6.0.2 (ICD- 9)	August 2017	PDI All	Software /Documentation	Description: Updated MS-DRG list to account for FY2016 changes. Rationale for the change: Annual update.
V6.0.2 (ICD- 9)	August 2017	PDI 08	Software //Documentation	Description: Aligned definitions of hemorrhage and hematoma procedures within PDI 08. Rationale for the change: Previous versions had multiple, largely overlapping lists of hemorrhage control procedures.
v6.0 (ICD-10)	July 2016	PDI All	Software //Documentation	Description: Length of the MDRG variable increased from 3 to 4 bytes to allow for additional value. Rationale for the change: The current software assigned a length=3 for the MDRG variable, which limited values to 3 bytes, or integers with a maximum value of 8,192. The peculiar consequence is that 8898 and 8899 were lumped together.

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v6.0 (ICD-10)	July 2016	PDI All	Software /Documentation	Description: Changed number of MDRG "Other" from 8898 to 9999 Rationale for the change: Cleans up MDRG list
v6.0 (ICD-10)	July 2016	PDI All	Software /Documentation	Description: Updated MS-DRG list to account for FY2016 changes. Rationale for the change: Update DRG lists for FY 16 changes
v6.0 (ICD-10)	July 2016	PDI All	Software /Documentation	Description: Updated OR procedure list to account for FY2016 changes. Rationale for the change: Updated OR procedure list to account for FY2016 changes.
v6.0 (ICD-10)	July 2016	PDI All	Software //Documentation	Description: Remove former DRG classification from software, include only MS-DRG in software. Rationale for the change: The DRG classification system has been replaced, and the inclusion of both the DRG and MSDRG classification system is confusing to users.
v6.0 (ICD-10)	July 2016	PDI 02	Specification/Cal culation	Description: Changed exclusion for length of stay from less than 5 days to less than 3 days. Source of false negatives and long length of stay potentially redundant with "present on admission". Rationale for the change: This exclusion is >87% POA-enhanced, and thus appears largely redundant with POA reporting

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
v6.0 (ICD-10)	July 2016	PDI 02	Specification/Cal culation	Description: Removed MDC 09 exclusion. Added focused exclusion for major skin disorders that are associated with higher risk of pressure ulcer.
				Rationale for the change: Some skin disorders put patients at greater risk for skin breakdown (e.g. Epidermolysis Bullosa). These types of skin disorders could lead to greater rates of decubitus ulcers and secondary complications in this patient group. Redundant with POA reporting
v6.0 (ICD-10)	July 2016	PDI 05	Specification/Cal culation	Description: Restricted the chest trauma exclusion to rib fractures, traumatic pneumothorax and related chest wall injuries that are associated with "difficult-to-detect" or nascent pneumothorax.
				Rationale for the change: Chest trauma, in general, shows no evidence of POA enhancement (i.e., 14% POA), so the exclusion does not appear to have its intended effect.
v6.0 (ICD-10)	July 2016	PDI 02, 08, 09, 10, NQI 03	Specification/Cal culation	Description: Revised OR Procedure list to remove known instances where procedures are not typically performed in an operating room. These changes result in the AHRQ QI OR procedure list not being aligned with the CMS OR Procedure list.
				Rationale for the change: CMS OR procedure list contains some common procedures that are not typically performed in the OR, and as a result these cases are incorrectly pushed into a surgical PSI denominator.
v6.0 (ICD-10)	July 2016	PDI 08	Specification/Cal culation	Description: Removed selected procedures that have weak connections with diagnosis or treatment of perioperative hemorrhage or hematoma from the numerator inclusion list. This was a source of false positives.
				Rationale for the change: Source of false positives, because users are reporting cases in which the triggering procedure is unrelated to perioperative hemorrhage or hematoma, and therefore cannot be used as a severity marker.

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v6.0 (ICD-10)	July 2016	PDI 09	Specification/Cal culation	Description: Expanded exclusion for acute postraumatic or postoperative respiratory failure present on admission to include other etiologies of acute respiratory failure. Rationale for the change: ARF of any cause POA obviates the usefulness of postoperative ARF as a quality indicator; users report some false positives for this reason.
v6.0 (ICD-10)	July 2016	PDI 09	Specification/Cal culation	Description: Added exclusion of hospitalizations involving lung transplantation. Rationale for the change: We are seeing where cystic fibrosis patients having both bilateral lung transplant along with liver transplant are qualifying for PSI-11-Perioperative Respiratory Failure when the payor is Blue Cross/Blue Shield since it goes to an APR-DRG and not an MS-DRG. Specifically, the principal diagnosis for the hospitalization in question plays an important role in MS-DRG assignment, which affects which MDC applies. In general, it would not be appropriate to exclude all hospitalizations involving a diagnosis of cystic fibrosis because we would not want to assume that all (or most) cases of postoperative respiratory failure in this subpopulation are non-preventable. However, exclusion of hospitalizations involving lung transplantation (33.5x) seems reasonable and appropriate.
v6.0 (ICD-10)	July 2016	PDI 10	Specification/Cal culation	Description: Removed exclusion for length of stay less than 4 days. Exclusion less necessary due to present on admission data. Rationale for the change: Consistency with PSI 13; stratification appears to enhance the apparent benefit of LOS exclusion in identifying events that were actually POA (i.e., 62% vs 21% POA among non-elective clean operations, which are excluded from PSI 13)
v6.0 (ICD-10)	July 2016	PDI 11	Specification/Cal culation	Description: Added exclusion for diagnosis of "disruption of internal operation wound" that is present on admission to denominator. Rationale for the change: Would presumably reduce FPs due to operative repair a dehiscent wound from a prior operation (but no validation evidence)

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V5.0	March 2015	Neonatal Iatrogenic Pneumothorax Rate (NQI 02)	Specification/Cal culation	The exclusion for polycystic kidney disease was corrected from autosomal dominant (753.13) to autosomal recessive (753.14).
V5.0	March 2015	Accidental Puncture or Laceration Rate (PDI 01)	Specification/Cal culation	E-codes (E870.x) were removed from the numerator and denominator.
V5.0	March 2015	Accidental Puncture or Laceration Rate (PDI 01)	Specification/Cal culation	The code for insertion of recombinant BMP (84.52) was removed from the denominator exclusion for spine surgery.
V5.0	March 2015	Pressure Ulcer Rate (PDI 02)	Specification/Cal culation	Records with any secondary diagnosis of pressure ulcer present on admission and any secondary diagnosis of pressure ulcer stage III or IV or unstageable present on admission were dropped from the denominator exclusion definition.
V5.0	March 2015	Retained Surgical Item or Unretrieved Device Fragment Count (PDI 03)	Specification/Cal culation	E-codes (E870.x) were removed from the numerator and denominator.
V5.0	March 2015	Perioperative Hemorrhage or Hematoma Rate (PDI 08)	Specification/Cal culation	Setnames HEMATIP, HEMORIP and HEMOTHP were consolidated into one set for "Control of perioperative hemorrhage and evacuation of hematoma". The procedure code for endovascular embolization or occlusion of vessel(s) of the head or neck using bioactive coils (39.76) and the codes for uterine art embolization with or without coils (68.24, 68.25) were added to the denominator code set for the Perioperative Hemorrhage or Hematoma Rate measure.
V5.0	March 2015	Perioperative Hemorrhage or Hematoma Rate (PDI 08)	Specification/Cal culation	Setnames POHMAID and POHMRID were consolidated into one set for "Perioperative Hemorrhage or Hematoma" (998.11, 998.12).
V5.0	March 2015	Perioperative Hemorrhage or Hematoma Rate (PDI 08)	Specification/Cal culation	The denominator exclusion for coagulopathy (COAGDID, 286.0-286.4, 286.52, 286.59, 286.6, 286.7, 286.9) was removed in favor of the existing stratification approach.
V5.0	March 2015	Postoperative Respiratory Failure Rate (PDI 09)	Specification/Cal culation	The code for temporary tracheostomy (31.1) was added to the definition of tracheostomy.

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V5.0	March 2015	Postoperative Respiratory Failure Rate (PDI 09)	Specification/Cal culation	The denominator exclusion for Gingivoplasty (24.2) was removed. A denominator exclusion for facial bone operations (76.31, 76.39, 76.41-76.45, 76.61-76.64, 76.7x, 76.92-76.99). was added. A denominator exclusion for laryngo-tracheal operations (31.0, 31.61-31.64,31.71-31.72, 31.91-31.95) was added. Setnames for laryngeal, pharyngeal, facial, and nose/mouth procedures were consolidated.
V5.0	March 2015	Postoperative Respiratory Failure Rate (PDI 09)	Specification/Cal culation	The code for senility (old age) without psychosis (797) was removed from the denominator exclusion for "degenerative neurological disorder".
V5.0	March 2015	Postoperative Respiratory Failure Rate (PDI 09)	Specification/Cal culation	The denominator exclusion for lung cancer surgery was expanded to include thoracoscopic surgery (32.30, 32.41, 32.50).
V5.0	March 2015	Postoperative Respiratory Failure Rate (PDI 09)	Specification/Cal culation	The denominator exclusion for esophagal surgery was expanded to include esophagostomy (42.10, 42.11, 42.12, 42.19).
V5.0	March 2015	Postoperative Sepsis Rate (PDI 10)	Specification/Cal culation	The code for postoperative shock N.O.S. (998.00) was removed from the numerator and denominator definitions for Postoperative Sepsis Rate.
V5.0	March 2015	Postoperative Wound Dehiscence Rate (PDI 11)	Specification/Cal culation	The code for transplant of intestine (46.97) was added to the denominator exclusion for transplant procedures.
V5.0	March 2015	Central Venous Catheter-Related Blood Stream Infection Rate (PDI 12)	Specification/Cal culation	The code for transplant of intestine (46.97) was added to the denominator stratification for "high-risk" transplant procedures.
V5.0	March 2015	Transfusion Reaction Count (PDI 13)	Specification/Cal culation	The code for mismatched blood transfusion (E8760) was removed from the numerator and denominator definitions for Transfusion Reaction Count.

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V5.0	March 2015	Gastroenteritis Admission Rate (PDI 16)	Specification/Cal culation	The diagnosis code for amebic nondysenteric infection (006.2) was removed from the denominator exclusion for "bacterial gastroenteritis".
V5.0	March 2015	PDSASA3	Specification/Cal culation	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	PDSASP3	Specification/Cal culation	Risk adjustment models were updated using the 2012 reference population file; The code was revised to use new regression coefficients.
V5.0	March 2015	PDSAS1	Specification/Cal culation	The macro code that uses POA values to identify conditions present on admission was revised to only use POA as indicated on the input file. The user must indicate if the input file includes POA data.
V5.0	March 2015	PDSASP2	Specification/Cal culation	The code for T flags for the POA to SAS1 program was adjusted.
V5.0	March 2015	PDI Composite	Specification/Cal culation	Weights for the measures that make up the Composite measure were updated using the 2012 reference population.
V5.0	March 2015	All PDI	Specification/Cal culation	The reference population was updated based on 2012 HCUP SIDS data.
V5.0	March 2015	All PDI	Specification/Cal culation	The population file was updated with US Census County estimates for 2014.
V4.5a	July 2014	PDI 06	Specification/Calc ulation	A software bug was fixed that will once again allow reporting of the expected, risk adjusted and smoothed rates for PDI 06.

V4. 5a	July 2014	PDI 06	Specification/Calc ulation	Numerator exclusion based on patent ductus arteriosus (PDA) and any-listed ICD-9-CM procedure codes for catheterization without any-listed ICD-9-CM procedure codes for extracorporeal circulation is changed so that the definition of PDA can include atrial septal defect or ventricular septal defect.
V4. 5a	July 2014	PDI 07	Specification/Calc ulation	Numerator exclusion based on patent ductus arteriosus (PDA) and any-listed ICD-9-CM procedure codes for catheterization withouth any-listed ICD-9-CM procedure codes for extracorporeal circulation is changed so that the definition of PDA can include atrial septal defect or ventricular septal defect.
V4. 5a	July 2014	PDI 09	Specification/Calc ulation	A bug in the PDFMY.SAS program was fixed that could affect the calculations for PDI 09
V4. 5a	July 2014	All PDIs	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	All PDIs	Software (SAS, V4.5a)	To improve the output of results in a better format, the PROC MEANS statement was modified.
V4.5	May 2013	All area PDI	Specification/Calc ulation	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.
V4.5	May 2013	All PDI	Specification/Calc ulation	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	Neonatal Blood Stream Infection Rate (NQI 3)	Specification/Calc ulation	Add numerator inclusion codes for any secondary diagnosis of methicillin resistant staphylococcus aureus septicemia to Criteria #1: METH RES STAPH AUR SEPT
				2. Drop numerator inclusion code for secondary diagnosis of (non-neonatal) bacteremia from Criteria #2:7907 BACTEREMIA
				3. Add numerator inclusion codes for secondary diagnosis of methicillin resistant staphylococcus aureus and Escherichia coli infection to Criteria#3: 04112 MTH RES STAPH AUR 04141 SHIGA TOXIN-PROD E. COLI 04142 SPEC SHIGA TOXIN-PROD E. COLI OTH 04143 SHIGA TOXIN-PROD E. COLI UNS 04149 SHIGA TOXIN-PROD E. COLI OTH/UNS
				4. Drop denominator inclusion for transfers into an acute care facility (DISP=2)5. Add denominator inclusion for transfers from another healthcare facility
				within two days of birth
				6. Add denominator exclusion codes for selected principal diagnosis of sepsis or bacteremia or secondary diagnosis present on admission of sepsis or bactermia: 04104 ENTEROCOCCUS GROUP D 04110 STAPHYLOCOCCUS UNSPCFIED 04111 MTH SUS STPH AUR ELS/NOS 04112 MTH RES STAPH AUR

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
				04119 OTHER STAPHYLOCOCCUS 0413 KLEBSIELLA PNEUMONIAE 0414 E. COLI INFECT NOS 04141 SHIGA TOXIN-PROD E. COLI 04142 SPEC SHIGA TOXIN-PROD E. COLI OTH 04143 SHIGA TOXIN-PROD E. COLI UNS 04149 SHIGA TOXIN-PROD E. COLI OTH/UNS 0417 PSEUDOMONAS INFECT NOS 04185 OTH GRAM NEGATV BACTERIA 1125 DISSEMINATED CANDIDIASIS 77181 SEPTICEMIA OF NEWBORN 77183 BACT OF NEWBORN 7. Add denominator exclusion codes for principal diagnosis (or secondary diagnosis present on admission only for those cases qualifying for the numerator) for sepsis or bacteremia: 1125 DISSEMINATED CANDIDIASIS 77181 SEPTICEMIA OF NEWBORN 77183 BACT OF NEWBORN 77181 SEPTICEMIA OF NEWBORN 77183 BACT OF NEWBORN 7907 BACTEREMIA 8. Drop denominator exclusion codes for principal diagnosis of infection or secondary diagnosis present on admission: PDI Appendix H – Infection Diagnosis Codes 9. Drop denominator exclusion for length of stay less than 2 days 10. Add denominator exclusion for length of stay less than 7 days

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.5	May 2013	Postoperative Hemorrhage or Hematoma Rate (PDI 8)	Specification/Calculation	1. Add denominator exclusion codes for any diagnosis code of coagulation disorder: 2860 CONG FACTOR VIII DISORDER 2861 CONG FACTOR IX DISORDER 2862 CONG FACTOR XI DISORDER 2863 CONG DEF CLOT FACTOR NEC 2864 VON WILLEBRAND'S DISEASE 28652 ACQUIRED HEMOPHILIA 28659 OT HEM D/T CIRC ANTICOAG 2866 DEFIBRINATION SYNDROME 2867 ACQ COAGUL FACTOR DEF 2869 COAGUL DEFECT NEC NOS 2. Add numerator inclusion codes for miscellaneous hemorrhage or hematomarelated procedures: Codes listed in Appendix C
V4.5	May 2013	All mortality PDI and Postoperative Wound Dehiscence Rate (PDI 11)	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 1x10 ⁹ . This changed only affected the software. The user will not see the change in parameters as they are embedded in the regression intercept and coefficients that are used by the prediction module. Rationale: Effect will be to change the reference population rate used for shrinkage to be closer to empirically estimated reference population rate given P=0.
V4.5	May 2013	All PDI	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.

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.5	May 2013	All PDI	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 PDI	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.
V4.5	May 2013	All PDI	Software/ Documentation	The definitions of Newborn and Outborn were revised in WinQI to better align them with SAS. The differences affected cases where discharge records have some combinations of missing values for one or more of the required data fields (e.g., Age, Age in Days).
V4.5	May 2013	All PDI	Software/ Documentation	The installation packages have been improved for Version 4.5 of the SAS and WinQI software, including the Prediction Module and 3M TM 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.

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.5	May 2013	All PDI	Software/ Documentation	The WinQI software was was corrected to address the following issues:
				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.
				5. 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.
V4.5	May 2013	Neonatal Blood Stream Infection Rate (NQI 3)	Software/ Documentation	1. WinQI was mistakenly including the operating room procedure code 640 which only applies to adults. And, SAS was not consistently excluding this code for all pediatric indicators and cases. This issue was fixed in SAS and WinQI Version 4.5. This change only affected the software.
				2. WinQI was mistakenly allowing some adult discharges to be included in the QI calculations in cases where the discharge record presents contradictory information about patient age and admission type. Specifically, software testing found that some adult discharge records include Newborn admission type. WinQI was fixed to make sure these adult cases are properly excluded from any pediatric indicator calculations.

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.5	May 2013	Volume of Foreign Body Left during Procedure (PDI 3)	Software/ Documentation	Rename indicator to "Retained Surgical Item or Unretrieved Device Fragment Count." This change only affected the documentation. Rationalee: NQF measure refinements agreed upon with the Surgery Endorsement Maintenance 2010 Steering Committee
V4.5	May 2013	Iatrogenic Pneumothorax Rate (PDI 5)	Software/ Documentation	Add denominator exclusion codes for any cardiac procdure: S597 PERC MTRL VLV REPR W IMP T3737 EXC/DEST HRT LES, THRSPC This change only affected the documentation.
V4.5	May 2013	Pediatric Heart Surgery Mortality Rate (PDI 6)	Software/ Documentation	Rename indicator to "RACHS-1 Pediatric Heart Surgery Mortality Rate." This change only affected the documentation. Rationalee: NQF measure refinements agreed upon with the Surgery Endorsement Maintenance 2010 Steering Committee
V4.5	May 2013	Pediatric Heart Surgery Volume (PDI 7)	Software/ Documentation	Rename indicator to "RACHS-1 Pediatric Heart Surgery Volume." This change only affected the documentation. Rationalee: NQF measure refinements agreed upon with the Surgery Endorsement Maintenance 2010 Steering Committee

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V4.5	May 2013	Postoperative Hemorrhage or Hematoma Rate (PDI 8)	Software/ Documentation	1. Rename indicator to "Perioperative Hemorrhage or Hematoma Rate." This change only affected the documentation. Rationalee: Cases identified included adverse events that occur both periand post-operatively 2. For the denominator exclusion criterion that excludes cases where the procedure of interest occurs before the first operating room procedure, explicitly say that a secondary diagnosis for postoperative hemorrhage or postoperative hematoma must also be present in the discharge record for the record to be excluded. This change only affected the documentation. 3. WinQI was mistakenly including the operating room procedure code 640 which only applies to adults. And, SAS was not consistently excluding this code for all pediatric indicaators and cases. This issue was fixed in SAS and WinQI Version 4.5. This change only affected the software.
V4.5	May 2013	Postoperative Respiratory Failure Rate (PDI 9)	Software/ Documentation	Added the following codes to Neruomuscular disorder diagnosis codes: 35921 MYOTONIC MUSCULAR DYSTRPHY 35929 OTHER MYOTONIC DISORDER This changed affected both the software and documentation. Added the following code to Esophageal resection procedure codes in the technical specification (as it should have been included): 4399 TOTAL GASTRECTOMY NEC This changed only affected the documentation.
V4.5	May 2013	Transfusion Reaction Volume (PDI 13)	Software/ Documentation	Rename indicator to "Transfusion Reaction Count." This changed only affected the documentation.
V4.5	May 2013	Urinary Tract Infection Admission Rate (PDI 18)	Software/ Documentation	Add numerator exclusion codes for any diagnosis of kidney/urinary tract disorder: 59000 CHR PYELONEPHRITIS NOS 59001 CHR PYELONEPH W MED NECR This change only affected the documentation.

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.4	March 2012	All Area PDI	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	Accidental Puncture or Laceration Rate (PDI 1)	FY Coding Change	Add denominator inclusion for surgical MS-DRGs (PDI Appendix C) Add code: 16 AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC 17 AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC 570 SKIN DEBRIDEMENT W MCC 571 SKIN DEBRIDEMENT W CC 572 SKIN DEBRIDEMENT W/O CC/MCC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.4	March 2012	Pressure Ulcer Rate (PDI 2)	FY Coding Change	1. Add/remove denominator inclusion for operating room procedure codes (PDI Appendix A) Add code: 0221 INSERT/REPLACE EVD 0222 INTRCRAN VENT SHUNT/ANAS 1267 INSERT AQUEOUS DRAIN DEV 1753 PERC ATHER EXTRACRAN VSL 1754 PERC ATHER INTRACRAN VSL 1755 TRANSLUM COR ATHERECTOMY 1756 ATHER OTH NON-VOR VESSEL 3500 CLOSED VALVOTOMY NOS 3505 ENDOVAS REPL AORTC VALVE 3506 TRNSAPCL REP AORTC VALVE 3507 ENDOVAS REPL PULM VALVE 3509 ENDOVAS REPL PULM VALVE 3509 ENDOVAS REPL UNS HRT VLV 3826 INSRT PRSR SNSR W/O LEAD 3977 TEMP ENDOVSC OCCLS VESSL 3978 ENDOVAS IMPLN GRFT AORTA 4382 LAP VERTICAL GASTRECTOMY 6824 UTERINE ART EMB W COILS 6825 UTERINE ART EMB W COIL Remove code: 0058 INS INTRA-ANSM PRES MNTR 0059 INTRAVAS MSMNT THORC ART 0068 INTRAVAS MSMNT PERIPH ART 0069 INTRAVAS MSMT PERIPH ART

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
				2. Add denominator includion for surgical MS-DRGs (PDI Appendix C) Add code: 16 AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC 17 AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC 570 SKIN DEBRIDEMENT W MCC 571 SKIN DEBRIDEMENT W CC 572 SKIN DEBRIDEMENT W/O CC/MCC
V4.4	March 2012	Volume of Foreign Body Left During Procedure (PDI 3)	FY Coding Change	Add denominator inclusion for surgical MS-DRGs (PDI Appendix C) Add code: 16 AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC 17 AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC 570 SKIN DEBRIDEMENT W MCC 571 SKIN DEBRIDEMENT W CC 572 SKIN DEBRIDEMENT W/O CC/MCC
V4.4	March 2012	Iatrogenic Pneumothorax Rate (PDI 5)	FY Coding Change	1. Add denominator exclusions for cardiac procedure Add code: 3506 TRNSAPCL REP AORTC VALVE 3508 TRNSAPCL REPL PULM VALVE 2. Add denominator inclusion for surgical MS-DRGs (PDI Appendix C) Add code: 16 AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC 17 AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC 570 SKIN DEBRIDEMENT W MCC 571 SKIN DEBRIDEMENT W CC 572 SKIN DEBRIDEMENT W/O CC/MCC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.4	March 2012	Pediatric Heart Surgery Mortality Rate (PDI 6)	FY Coding Change	1. Add denominator inclusions for procedures to repair congenital heart defect Add code: 3500 CLOSED VALVOTOMY NOS 3505 ENDOVAS REPL AORTC VALVE 3506 TRNSAPCL REP AORTC VALVE 3507 ENDOVAS REPL PULM VALVE 3508 TRNSAPCL REPL PULM VALVE 2. Add denominator inclusions for diagnosis of congenital heart disease Add code: 74731 PULMON ART COARCT/ATRES 74732 PULMONARY AV MALFORMATN 74739 OTH ANOM PUL ARTERY/CIRC
V4.4	March 2012	Pediatric Heart Surgery Volume (PDI 7)	FY Coding Change	1. Add numerator inclusions for procedures to repair congenital heart defect Add code: 3500 CLOSED VALVOTOMY NOS 3505 ENDOVAS REPL AORTC VALVE 3506 TRNSAPCL REP AORTC VALVE 3507 ENDOVAS REPL PULM VALVE 3508 TRNSAPCL REPL PULM VALVE 2. Add numerator inclusion for diagnosis of congenital heart disease Add code: 74731 PULMON ART COARCT/ATRES 74732 PULMONARY AV MALFORMATN 74739 OTH ANOM PUL ARTERY/CIRC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.4	March 2012	Postoperative Hemorrhage or Hematoma Rate (PDI 8)	FY Coding Change	1. Add stratification high risk inclusion codes for coagulopathies to high risk group Add code: 28652 ACQUIRED HEMOPHILIA 28653 ANTIPHOSPHOLIPID W HEMOR 28659 OT HEM D/T CIRC ANTICOAG 2. Add/remove denominator inclusion for operating room procedure codes (PDI Appendix A) Add code: 0221 INSERT/REPLACE EVD 0222 INTRCRAN VENT SHUNT/ANAS 1267 INSERT AQUEOUS DRAIN DEV 1753 PERC ATHER EXTRACRAN VSL 1754 PERC ATHER INTRACRAN VSL 1755 TRANSLUM COR ATHERECTOMY 1756 ATHER OTH NON-VOR VESSEL 3500 CLOSED VALVOTOMY NOS 3505 ENDOVAS REPL AORTC VALVE 3506 TRNSAPCL REP AORTC VALVE 3507 ENDOVAS REPL PULM VALVE 3508 TRNSAPCL REPL PULM VALVE 3508 TRNSAPCL REPL UNS HRT VLV 3826 INSRT PRSR SNSR W/O LEAD 3977 TEMP ENDOVSC OCCLS VESSL 3978 ENDOVAS IMPLN GRFT AORTA 4382 LAP VERTICAL GASTRECTOMY 6824 UTERINE ART EMB W COILS 6825 UTERINE ART EMB W/O COIL

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
				Remove code: 0058 INS INTRA-ANSM PRES MNTR 0059 INTRAVASC MSMNT COR ART 0067 INTRAVAS MSMNT THORC ART 0068 INTRAVAS MSMT PERIPH ART 0069 INTRAVS MSMT VES NEC/NOS 3. Add denominator inclusion for surgical MS-DRGs (PDI Appendix C) Add code: 16 AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC 17 AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC 570 SKIN DEBRIDEMENT W MCC 571 SKIN DEBRIDEMENT W CC 572 SKIN DEBRIDEMENT W/O CC/MCC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.4	March 2012	Postopertive Respiratory Failure Rate (PDI 9)	FY Coding Change	1. Add numerator inclusions for diagnosis of acute respiratory failure Add code: 51851 AC RESP FLR FOL TRMA/SRG 51853 AC/CHR RSP FLR FOL TR/SG 2. Remove numerator inclusions for diagnosis of acute respiratory failure Remove code: 51881 ACUTE RESPIRATORY FAILURE 51884 ACUTE & CHRONC RESP FAIL 3. Add denominator exclusions for diagnosis of degenerative neurological disorder Add code: 31081 PSEUDOBULBAR AFFECT 31089 NONPSYCH MNTL DISORD NEC 3316 CORTICOBASAL DEGENERATION 34882 BRAIN DEATH 4. Add denominator exclusions for diagnosis of neuromuscular disorders Add code: 35830 LAMBERT-EATON SYND NOS 35831 LAMBERT-EATON SYND NEOPL 35839 LAMBERT-EATON SYN OT DIS

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
				5. Add/remove denominator inclusion for operating room procedure codes (PDI Appendix A) Add code: 0221 INSERT/REPLACE EVD 0222 INTRCRAN VENT SHUNT/ANAS 1267 INSERT AQUEOUS DRAIN DEV 1753 PERC ATHER EXTRACRAN VSL 1754 PERC ATHER INTRACRAN VSL 1755 TRANSLUM COR ATHERECTOMY 1756 ATHER OTH NON-VOR VESSEL 3500 CLOSED VALVOTOMY NOS 3505 ENDOVAS REPL AORTC VALVE 3506 TRNSAPCL REP AORTC VALVE 3507 ENDOVAS REPL PULM VALVE 3508 TRNSAPCL REPL PULM VALVE 3509 ENDOVAS REPL UNS HRT VLV 3826 INSRT PRSR SNSR W/O LEAD 3977 TEMP ENDOVSC OCCLS VESSL 3978 ENDOVAS IMPLN GRFT AORTA 4382 LAP VERTICAL GASTRECTOMY 6824 UTERINE ART EMB W COILS 6825 UTERINE ART EMB W/O COIL Remove code: 0058 INS INTRA-ANSM PRES MNTR 0059 INTRAVAS MSMNT THORC ART 0067 INTRAVAS MSMNT THORC ART 0068 INTRAVAS MSMT PERIPH ART 0069 INTRAVS MSMT VES NEC/NOS

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
				6. Add denominator inclusion for surgical MS-DRGs (PDI Appendix C) Add code: 16 AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC 17 AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC 570 SKIN DEBRIDEMENT W MCC 571 SKIN DEBRIDEMENT W CC 572 SKIN DEBRIDEMENT W/O CC/MCC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.4	March 2012	Postoperative Sepsis Rate (PDI 10)	FY Coding Change	1. Add denominator exclusions for diagnosis of infection (PDI Appendix H) Add code: 04141 SHIGA TXN-PRODUCE E.COLI 04142 SHGA TXN PROD E.COLI NEC 04143 SHGA TXN PROD E.COLI NOS 04149 E.COLI INFECTION NEC/NOS 53901 INT D/T GASTRC BAND PROC 53981 INF D/T OT BARIATRC PROC 59681 INFECTION OF CYSTOSTOMY 99931 OTH/UNS INF-CEN VEN CATH 99932 BLOOD INF DT CEN VEN CTH 99933 LCL INF DT CEN VEN CTH 99934 AC INF FOL TRANS,INF BLD 2. Add code for high risk immunocompromised states (PDI Appendix F) Add code: 996.88 COMP TP ORGAN-STEM CELL 3. Add numerator inclusions for diagnosis of sepsis Add code: 99800 POSTOPERATIVE SHOCK, NOS 99802 POSTOP SHOCK, SEPTIC 4. Add code for intermediate risk immunocompromised states (PDI Appendix G): Add code: 573.5 HEPATOPULMONARY SYNDROME

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
			CHANGE	5. Remove numerator inclusion for diagnosis of sepsis Remove code: 998.0 POSTOPERATIVE SHOCK, NOS 6. Add denominator inclusions operating room procedure codes (PDI Appendix A) Add code: 0221 INSERT/REPLACE EVD 0222 INTRCRAN VENT SHUNT/ANAS 1267 INSERT AQUEOUS DRAIN DEV 1753 PERC ATHER EXTRACRAN VSL 1754 PERC ATHER INTRACRAN VSL 1755 TRANSLUM COR ATHERECTOMY 1756 ATHER OTH NON-VOR VESSEL 3500 CLOSED VALVOTOMY NOS 3505 ENDOVAS REPL AORTC VALVE 3506 TRNSAPCL REP AORTC VALVE 3506 TRNSAPCL REP AORTC VALVE 3507 ENDOVAS REPL PULM VALVE 3508 TRNSAPCL REPL PULM VALVE 3509 ENDOVAS REPL UNS HRT VLV 3826 INSET PRSR SNSR W/O LEAD 3977 TEMP ENDOVSC OCCLS VESSL 3978 ENDOVAS IMPLN GRFT AORTA 4382 LAP VERTICAL GASTRECTOMY 6824 UTERINE ART EMB W COIL Remove code: 0058 INS INTRA-ANSM PRES MNTR
				0059 INTRAVASC MSMNT COR ART 0067 INTRAVAS MSMNT THORC ART 0068 INTRAVAS MSMT PERIPH ART 0069 INTRAVS MSMT VES NEC/NOS

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
				7. Add denominator and stratification inclusion for surgical MS-DRGs (PDI Appendix C) Add code: 16 AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC 17 AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC 570 SKIN DEBRIDEMENT W MCC 571 SKIN DEBRIDEMENT W CC 572 SKIN DEBRIDEMENT W/O CC/MCC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.4	March 2012	Postoperative Wound Dehiscence Rate (PDI 11)	FY Coding Change	1. Add denominator inclusion for abdominopelvic procedures Add code: 4382 LAP VERTICAL GASTRECTOMY 2. Add denominator exclusion for diagnosis of high-risk immunocompromised state (PDI Appendix F) Add code: 28411 ANTIN CHEMOP INDCD PANCYT 28412 OTH DRG INDCD PANCYTOPNA 28419 OTHER PANCYTOPENIA 99688 COMP TP ORGAN-STEM CELL 3. Add denominator exclusion for diagnosis of intermediate-risk immunocompromised state (PDI Appendix G) Add code: 5735 HEPATOPULMONARY SYNDROME 4. Add stratification inclusion for surgical MS-DRGs Add code: 16 AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC 17 AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC 570 SKIN DEBRIDEMENT W MCC 571 SKIN DEBRIDEMENT W CC 572 SKIN DEBRIDEMENT W/O CC/MCC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.4	March 2012	Central Venous Catheter-Related Blood Stream Infection Rate (PDI 12)	FY Coding Change	1. Add numerator definition for diagnosis of central venous catheter-related blood stream infections diagnosed on or after October 1, 2011. Add code: 99931 OTH/UNS INF-CEN VEN CATH 99932 BLOOD INF DT CEN VEN CTH 2. Add denominator inclusion for surgical MS-DRGs (PDI Appendix C) Add code: 16 AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC 17 AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC 570 SKIN DEBRIDEMENT W MCC 571 SKIN DEBRIDEMENT W CC 572 SKIN DEBRIDEMENT W/O CC/MCC 3. Add denominator exclusion for diagnosis of high- risk immunocompromised state (PDI Appendix F) Add code: 28411 ANTIN CHEMOP INDCD PANCYT 28412 OTH DRG INDCD PANCYTOPNA 28419 OTHER PANCYTOPENIA 99688 COMP TP ORGAN-STEM CELL 4. Add denominator exclusion for diagnosis of intermediate-risk immunocompromised state (PDI Appendix G) Add code: 5735 HEPATOPULMONARY SYNDROME

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.4	March 2012	Transfusion Reaction Volume (PDI 13)	FY Coding Change	Add denominator inclusion for surgical MS-DRGs (PDI Appendix C) Add code: 16 AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC 17 AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC 570 SKIN DEBRIDEMENT W MCC 571 SKIN DEBRIDEMENT W CC 572 SKIN DEBRIDEMENT W/O CC/MCC
V4.4	March 2012	Asthma Admission Rate (PDI 14)	FY Coding Change	Add denominator exclusion code for cystic fibrosis and anomalies of the respiratory system Add code: 51661 NEUROEND CELL HYPRPL INF 51662 PULM INTERSTITL GLYCOGEN 51663 SURFACTANT MUTATION LUNG 51664 ALV CAP DYSP W VN MISALN 51669 OTH INTRST LUNG DIS CHLD
V4.4	March 2012	Urinary Tract Infection Admission Rate (PDI 18)	FY Coding Change	1. Add denominator exclusion for diagnosis of high- risk immunocompromised state (PDI Appendix F) Add code for high-risk: 28411 ANTIN CHEMOP INDCD PANCYT 28412 OTH DRG INDCD PANCYTOPNA 28419 OTHER PANCYTOPENIA 99688 COMP TP ORGAN-STEM CELL 2. Add denominator exclusion for diagnosis of intermediate-risk immunocompromised state (PDI Appendix G) Add code for intermediate risk: 5735 HEPATOPULMONARY SYNDROME

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.4	March 2012	Neonatal Iatrogenic Pneumothorax Rate (NQI 1)	FY Coding Change	1. Add denominator exclusion code for cardiac procedure Add code: 3506 TRNSAPCL REP AORTC VALVE 3508 TRNSAPCL REPL PULM VALVE 2. Add denominator inclusion for surgical MS-DRGs (PDI Appendix C) Add code: 16 AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC 17 AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC 570 SKIN DEBRIDEMENT W MCC 571 SKIN DEBRIDEMENT W CC 572 SKIN DEBRIDEMENT W/O CC/MCC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.4	March 2012	Neonatal Blood Stream Infection Rate (NQI 3)	FY Coding Change	1. Add denominator exclusions for diagnosis of infection (PDI Appendix H) Add code: 04141 SHIGA TXN-PRODUCE E.COLI 04142 SHGA TXN PROD E.COLI NEC 04143 SHGA TXN PROD E.COLI NOS 04149 E.COLI INFECTION NEC/NOS 53901 INT D/T GASTRC BAND PROC 53981 INF D/T OT BARIATRC PROC 59681 INFECTION OF CYSTOSTOMY 99931 OTH/UNS INF-CEN VEN CATH 99932 BLOOD INF DT CEN VEN CTH 99933 LCL INF DT CEN VEN CTH 99934 AC INF FOL TRANS,INF BLD 2. Add denominator exclusions for diagnosis of sepsis Add code: 99800 POSTOPERATIVE SHOCK, NOS 99802 SHOCK FOLLOW TRAUMA OR SURGERY, SEPTIC 3. Remove denominator exclusion for diagnosis of sepsis Remove code: 9980 POSTOPERATIVE SHOCK

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
				4. Add/remove denominator inclusion for Operating Room Procedure Codes (PDI Appendix A) Add code: 0221 INSERT/REPLACE EVD 0222 INTRCRAN VENT SHUNT/ANAS 1267 INSERT AQUEOUS DRAIN DEV 1753 PERC ATHER EXTRACRAN VSL 1754 PERC ATHER INTRACRAN VSL 1755 TRANSLUM COR ATHERECTOMY 1756 ATHER OTH NON-VOR VESSEL 3500 CLOSED VALVOTOMY NOS 3505 ENDOVAS REPL AORTC VALVE 3506 TRNSAPCL REP AORTC VALVE 3507 ENDOVAS REPL PULM VALVE 3509 ENDOVAS REPL UNS HRT VLV 3826 INSRT PRSR SNSR W/O LEAD 3977 TEMP ENDOVSC OCCLS VESSL 3978 ENDOVAS IMPLN GRFT AORTA 4382 LAP VERTICAL GASTRECTOMY 6824 UTERINE ART EMB W COILS Remove code: 0058 INS INTRA-ANSM PRES MNTR 0059 INTRAVASC MSMNT COR ART 0067 INTRAVAS MSMNT PERIPH ART 0069 INTRAVAS MSMT PERIPH ART 0069 INTRAVS MSMT VES NEC/NOS 6825 UTERINE ART EMB W/O COIL
V4.4	March 2012	Software	Software/ Documentation	Revised the data step of creating permanent data set containing all records which are deleted from the analysis because key variable values having missing data

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V4.4	March 2012	Software	Software/ Documentation	PDI 12: Modified inclusion logic to include time dependent logic todischarges before October 1, 2011 and after October 1, 2011 for central line-associated blood stream infection diagnosis codes
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	PDI 09: Modified inclusion logic to include time dependent logic to discharges before October 1, 2011 and after October 1, 2011 for acute Respiratory Failure diagnosis codes
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 both SAS and WinQI so that this truncation only applies in cases where no stratification is being performed.
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.
V4.4	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 and affects PDI 06 only.
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 was not properly calculating quarterly rates when requested by the user. 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	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	Sort routine was (PROC SORT) was introduced to PDSASP3 and PDSASA3 programs before merging all the indicators together to sorting problems in SAS whenever user selects multiple stata (e.g. stratifies by age, gender, and age by gender)
V4.4	March 2012	Software	Software/ Documentation	WinQI v4.3 did not properly implement a user selection of years later than 2009 during area report generation. Users were unable to select the year 2010 or 2011 to derive the denominator for area indicators. This issue, which affected all area-level QI, was fixed in v4.4 of WinQI.
V4.4	March 2012	Software	Software/ Documentation	The files of shrinkage factors (MSXPDP43.TXT) which were applied to the risk-adjusted were revised using re-calculated signal variance.
V4.4	March 2012	Software	Software/ Documentation	PDI 09: Modified the order of denominator exclusion/inclusions and numerator flags.
V4.4	March 2012	Software	Software/ Documentation	PDSASA2.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	Minor SAS versus WinQI coding differences were corrected in the implementation of the technical specifications (e.g., differences in the order in which statements were evaluated) for PDI 01 and PDI 02.
V4.4	March 2012	Software	Software/ Documentation	PDI 15 (Diabetes Short-term Complications Admission Rate) can be calculated using the number of diabetics in the state as the denominator, stratified by age.

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V4.4	March 2012	Software	Software/ Documentation	Changes were made to the SAS and WinQI software to implement a reestimation 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, IQI-14, NQI-01 and PSI-08).
V4.3	April 2011	Iatrogenic Pneumothorax (PDI 5) Denominator (Exclusion, thoracic procedure)	Coding	Add code: 3227 BRNC THRMPLSTY, ABLT MSCL
V4.3	April 2011	Iatrogenic Pneumothorax (PDI 5) Denominator (Exclusion, cardiac procedure)	Coding	Add code: 3597 PERC MRTL VLV REPR W IMP 3737 EXC/DEST HRT LES, THRSPC
V4.3	April 2011	Postoperative Hemorrhage or Hematoma (PDI 8)	Coding	Add to risk category for diagnosis of coagulopathy 28741 POSTTRANSFUSION PURPURA
V4.3	April 2011	Transfusion Reaction (PDI 13) Numerator (Inclusion, transfusion reaction)	Coding	Add code: 99960 ABO INCOMPAT REACT NOS 99961 ABO INCOMP/HTR NEC 99962 ABO INCOMPAT/ACUTE HTR 99963 ABO INCOMPAT/DELAY HTR 99969 ABO INCOMPAT REACTN NEC 99970 RH INCOMPAT REACTION NOS 99971 RH INCOMP/HTR NEC 99972 RH INCOMPAT/ACUTE HTR 99973 RH INCMPAT/DELAY HTR 99974 RH INCOMPAT REACTION NEC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.3	April 2011	AHRQ Procedure Class	Coding	Add to procedure class: Class 1: 1771 NON-CORONARY IFVA Class 2: 0060 INS D-E STNT SUP FEM ART 3897 CV CATH PLCMT W GUIDANCE Class 4: 0120 IMP/REPL BRAIN PULSE GEN 0129 REM BRAIN PULSE GENERATR 3227 BRNC THRMPLSTY ABLT MSCL 3597 PERC MTRL VLV REPR W IMP 3737 EXC/DEST HRT LES THRSPC 3981 IMP CRTD SINUS STMTOTL 3982 IMP/REP CRTD SINUS STMTOTL 3983 IMP/RED CRTD SINUS GNRTR 3984 REV CRTD SINUS STM LEADS 3985 REV CRTD SINUS STM LEADS 3986 REM CRTD SINUS STM TOTL 3987 REM CRTD SINUS STM LEAD 3988 REM CRTD SINUS PULSE GEN 3989 OTH CARTD BODY/SINUS OP 8188 RVRS TOTL SHLDR REPLACMT 8494 INS STRN FIX W RGD PLATE 8555 FAT GRAFT TO BREST 8687 FAT GRFT SKIN/SUBQ TISS 8690 EXT FAT FOR GRFT/BANKING

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.3	April 2011	Major Operating Room Procedure	Coding	Add codes: 0120 IMP/REPL BRAIN PULSE GEN 0129 REM BRAIN PULSE GENERATR 3227 BRNC THRMPLSTY ABLT MSCL 3597 PERC MTRL VLV REPR W IMP 3737 EXC/DEST HRT LES THRSPC 3981 IMP CRTD SINUS STMTOTL 3982 IMP/REP CRTD SINUS LEAD 3983 IMP/REP CRTD SINUS GNRTR 3984 REV CRTD SIMUS STM LEADS 3985 REV CRTD SINUS PULSE GEN 3986 REM CRTF SINUS STM TOTL 3987 REM CRTD SINUS STM LEAD 3988 REM CRTD SINUS PULSE GEN 3989 OTH CARTD BODY/SINUS OP 8188 RVRS TOTL SHLDR REPLACMT 8494 INS STRN FIX W RGD PLATE 8555 FAT GRAFT TO BREAST 8587 FAT GRFT SKIN/SUBQ TISS 8690 EXT FAT FOR GRFT/BANKING

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.3	April 2011	AHRQ Clinical Classification Software	Coding	Add codes: CCS 58: 27501 HEREDIT HEMOCHROMATOSIS 27502 HEMOCHROMATOS-RBC TRANS 27503 HEMOCHROMATOSIS NEC 27509 DISORD IRON METABLSM NEC 27803 OBESITY HYPOVENTS SYND V8541 BMI 40.0-44.9, ADULT V8542 BMI 45.0-49.9, ADULT V8543 BMI 50.0-59.9, ADULT V8544 BMI 60-69.9, ADULT V8545 BMI 70 AND OVER, ADULT CCS 62: 28749 SEC THROMBOCYTPENIA NEC CCS 83: 78033 POST TRAUMATIC SEIZURES CCS 95: 78452 FLNCY DSORD COND ELSEWHR 79951 ATTN/CONCENTRATE DEFICIT 79952 COG COMMUNICATE DEFICIT 79953 VISUOSPATIAL DEFICIT 79955 FRONTAL LOBE DEFICIT 79959 COGNITION SIGN/SYMPT NEC CCS 133: 78630 HEMOPTYSIS NOS 78631 AC IDIO PUL HEMRG INFANT 78639 HEMOPTYSIS NEC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
				CCS 213: V1365 HX-CONG MALFORM-HEART CCS 214: V1367 HX-CONG MALFORM-DIGEST CCS 215: 75231 AGENESIS OF UTERUS 75232 HYPOPLASIA OF UTERUS 75233 UNICORNUATE UTERUS 75234 BICORNUATE UTERUS 75235 SEPTATE UTERUS 75236 ARCUATE UTERUS 75236 ARCUATE UTERUS 75239 ANOMALIES OF UTERUS NEC 75243 CERVIAL AGENESIS 75244 CERVICAL DUPLICATION 75245 VAGINAL AGENESIS 75246 TRANSV VAGINAL SEPTUM V1362 HX-CONG MALFORM-CU CCS 216: V1363 HX-CONG MALFORM-NERVOUS CCS 217: V1364 HX-CONG MALFORM-EYE,FACE V1366 HX-CONG MALFORM-ESP SYS V1368 HX-CONG MALFORM-SKIN,MS CCS 654: 31535 CHLDHD ONSET FLNCY DISOR
V4.3	April 2011	Surgical MS-DRG	Coding	Add to numerator inclusion for Surgical D RG 14 ALLOGENIC BONE MARROW TRANSPLANT 15 AUTOLOGOUS BONE MARROW TRANSPLANT
V4.3	April 2011	Software (SAS and WinQI) and Documentation	Software/ Documents	PDI #2: Modified inclusion logic to remove exclusion of pressure ulcer in stage I or II to capture diagnosis of stage III or IV ulcers.

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.3	April 2011	Software (SAS and WinQI) and Documentation	Software/ Documents	PDI #5: Added denominator exclusions for thoracic procedures (43.5, 43.99, 44.67, 77.81, 77.91)
V4.3	April 2011	Software (SAS and WinQI) and Documentation	Software/ Documents	PDI #9: Added denominator exclusion for esophageal resection procedure (MDC 4), lung cancer procedures (32.39, 32.49, 32.59), ENT/neck procedures (CCS 33), and degenerative neurological disorders (CCS 653)
V4.3	June 30, 2011	Software (SAS and WinQI) and Documentation	Software/ Documents	AHRQ Clinical Classification Software: Modified CCS 65 to CCS 654 and CCS 67 to CCS 661. Added codes: 307.0, 307.9, 315.00, 315.01, 315.02, 315.09, 315.1, 315.2, 315.31, 315.32, 315.34, 315.35, 315.39, 315.4, 315.5, 315.8, 315.9, V40.0, V40.1, 648.30, 648.31, 648.32, 648.33, 648.34, 655.50, 655.51, 655.53, 760.72, 760.73, 760.75, 779.5, 965.00, 965.01, 965.02, 965.09, V65.42. Removed codes:305.1, 305.10, 305.11, 305.12, 305.13, V15.82
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.
V4.2	September 30, 2010	Pressure Ulcer (PDI 2)	Coding	Add diagnosis codes to stratifiers by hemiplegia, paraplegia, orquadriplegia 768.70 Hypoxic-ischemic encephalopathy, unspecified 768.72 Moderate hypoxic-ischemic encephalopathy 768.73 Severe hypoxic-ischemic encephalopathy
V4.2	September 30, 2010	Postoperative Respiratory Failure (PDI 9) Denominator (Exclusion, neuromuscular disorders)	Coding	359.71 Inclusion body myositis IBM 359.79 Other inflammatory and immune myopathies, NEC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.2	September 30, 2010	Postoperative Sepsis (PDI 10) Denominator (Exclusion, Infection)	Coding	670.00 Major puerperal infection NOS-unsp 670.02 Major puerperal Infection NOS-del p/p 670.04 Major puerperal infection NOS-p/p 670.10 Puerperal endometritis-unsp 670.12 Puerperal endometritis del w p/p 670.14 Puerperal endometritis-postpart 670.20 Puerperal sepsis-unsp 670.22 Puerperal sepsis-del w p/p 670.24 Puerperal sepsis-postpart 670.30 Puerperal septic thrombophlebitis-unsp 670.32 Puerperal septic thrombophlebitis-del w p/p 670.34 Puerperal septic thrombophlebitis-postpart 670.80 Major puerperal infection NEC-suspec 670.82 Major puerperal infection NEC-dl w p/p 670.84 Major puerperal infection NEC-p/p
V4.2	September 30, 2010	Postoperative Wound Dehiscence (PDI 11) Denominator (Exclusion, high risk group)	Coding	279.41 Autoimmune lymphoproliferative syndrome ALPS 279.49 Autoimmune disease, not elsewhere classified

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.2	September 30, 2010	Multiple PDI Indicators	Coding	Add procedure codes: 0049 Superstat O2 Therapy 0058 Ins Intra-ansm Pres Mntr 0059 Intravasc Msmnt Cor Art 0067 Intravas Msmnt Thore Art 0068 Intravas Msmt Periph Art 0069 Intravs Msmt Ves NEC/NOS 1751 Implant CCM, total system 1752 Implant CCM pulse gentr 1761 LITT lesn brain, guidance 1762 LITT les hd/nck, guidance 1763 LITT lesn liver, guidance 1769 LITT lesn, guide oth/NOS 1770 Intravenous Infusion of Clofarabine 3373 Endo ins/re brnc val, mul 3824 Intravas img corves OCT 3825 Intravas img non-cor OCT 3975 Endo emb hd/nk, bare coil 3976 Endo em hed/nk, bioac coil 4686 Endo insrt colonic stent 4687 Insert colonic stent NEC 3850 ABDPERNEAL RES RECTM NOS 8570 TOTL RECONSTC Breast NOS

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.2	September 30, 2010	Multiple PDI Indicators	Coding	Change procedure codes: 3760 Imp Bivn Ext Hrt Ast Sys 4840 Pull-thru Res Rectum NOS Change procedure codes category assignments: 0044 PROC-VESSEL BIFURCATION 0074 HIP REPL SURFMETAL/POLY 0075 HIP REPL SURFMETAL/METAL 0076 HIP REP SURFMETAL/METAL 0076 HIP REP SURF-CERMC/CERMC 0077 HIP REPL SURF-CERMC/POLY 0094 HITRA-OP NEUROPHYS MONTR 0110 INTRACRAN PRESSURE MONTR 0110 INTRACRANIAL 02 MONITOR 0117 BRAIN TEMP MONITORING 0126 INS CATHCRANIAL CAVITY 10127 REM CATHCRANIAL CAVITY 1741 OPEN ROBOTIC ASSIST PROC 1742 LAP ROBOTIC ASSIST PROC 1743 PERC ROBOTIC ASSIST PROC 1744 ENDO ROBOTIC ASSIST PROC 1745 THORACO ROBOTIC ASSIST PROC 1746 PROBOTIC AST PROC NEC/NOS 3372 ENDO PULM ARWY FLOW MSMT 3736 EXC LEFT A TRAIL APPENDAG 3768 PERCUTAN HRT ASSIST SYST 3790 INS LEFT ATR APPEND DEV 3823 INTRAVASCLR SPECTROSCOPY 5013 TRANSJUGULAR LIVER BX 7094 INSERT BIOLOGICAL GRAFT 7095 INSERT SYNTH GRAFT/PROST 8472 APP EXT FIX DEVRING SYS 8473 APP HYBRID EXT FIX DEV 9227 RADIOACTIVE ELEM IMPLANT

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.2	September 30, 2010	Multiple PDI Indicators	Coding	Add new operating procedure codes: 1751 Implant CCM, total system 1752 Implant CCM pulse gentr 1761 LITT lesn brain, guidance 1762 LITT les hd/nck, guidance 1763 LITT lesn liver, guidance 1763 LITT lesn, guide oth/NOS 3975 Endo emb hd/nk, bare coil 3976 Endo em hed/nk, bioac coil 4850 ABDPERNEAL RES RECTM NOS 8570 TOTL RECONSTC BREAST NOS Modify: 9227 RADIOACTIVE ELEM IMPLANT 3760 IMP BIVN EXT HRT AST SYS 4840 PULL-THRU RES RECTUM NOS 3768 PERCUTAN HRT ASSIST SYST

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.2	September 30, 2010	Multiple PDI Indicators	Coding	Remove operating procedure codes: 0044 PROC-VESSEL BIFURCATION 0074 HIP REPL SURFMETAL/POLY 0075 HIP REP SURFMETAL/METAL 0076 HIP REP SURFCERMC/CERMC 0077 HIP REPL SURF- CERMC/POLY 0126 INS CATHCRANIAL CAVITY 0127 REM CATHCRANIAL CAVITY 1741 OPEN ROBOTIC ASSIST PROC 1742 LAP ROBOTIC ASSIST PROC 1743 PERC ROBOTIC ASSIST PROC 1744 ENDO ROBOTIC ASSIST PROC 1745 THORACO ROBOTIC AST PROC 1749 ROBOTIC AST PROC NEC/NOS 3372 ENDO PULM ARWY FLOW MSMT 3736 EXC LEFT A TRAIL APPENDAG 3790 INS LEFT ATR APPEND DEV 3823 INTRAVASCLR SPECTROSCOPY 7094 INSERT BIOLOGICAL GRAFT 7095 INSERT SYNTH GRAFT/PROST 8472 APP EXT FIX DEVRING SYS 8473 APP HYBRID EXT FIX DEV
V4.2	September 30, 2010	Multiple PDI Indicators	Coding	Add ICD-9-CM codes to the corresponding CCS categories, per Table 2 in Appendix.
V4.1	December 2, 2009	SAS Software and Documentation	Software/ Documents	PQI #9 – Low Birth Weight and PSI #17 – Birth Trauma Injury to Neonates – now calculated in the PDI SAS module. Technical Specifications for these indicators are distributed with their respective (PQI and PSI) set of documents.
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	PDI #2 – Pressure Ulcer (formerly Decubitus Ulcer) – added diagnosis code to denominator exclusion for hemi- and paraplegia (334.1)

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V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	NQI #1 and PDI #5 – Iatrogenic Pneumothorax – 1) replaced the DRG denominator exclusion for cardiac surgery with procedure code denominator exclusion for cardiac procedures; 2) added procedure codes to denominator exclusion for thoracic procedures
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	PDI #4 – Iatrogenic Pneumothorax in Neonates has been redesignated as NQI #1. It is still calculated by the PDI SAS module.
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	PDI #9 – Postoperative respiratory failure – added denominator exclusion for craniofacial anomalies with 1) a procedure code for laryngeal or pharyngeal surgery or 2) a procedure on face and a diagnosis code of craniofacial abnormalities.
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	PDI #10 – Postoperative sepsis – removed diagnosis code from numerator inclusion for sepsis for discharges after 2004Q4 (effective October 1, 2004)
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	PDI #12 – Central Line-associated Bloodstream Infection – renamed the indicator from "Selected infections due to medical care"
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	PDI #16 – Gastroenteritis – added diagnosis code to numerator exclusion for gastrointestinal abnormalities (538 Gastrointestinal mucositis (ulcerative))
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	Multiple – Infection – 1) removed diagnosis codes for non-bacterial infections from denominator exclusion for infection; 2) Add diagnosis code to denominator exclusion for infection (078.3 CAT-SCRATCHDISEASE)
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	Multiple – Major Operating Room Procedures – removed selected procedure codes from the denominator inclusion for major operating room procedures
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	Medical DRGs – replaced the DRG denominator inclusion for medical discharges with the MS-DRG denominator inclusion for medical discharges for discharges after 2007Q4 (effective October 1, 2007).

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	Surgical DRGs – replaced the DRG denominator inclusion for surgical discharges with the MS-DRG denominator exclusion for surgical discharges for discharges after 2007Q4 (effective October 1, 2007)
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	Adult DRGs – dropped the DRG denominator inclusion for adult DRGs.
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	Pediatric Heart Surgery Mortality (PDI #6) – excluded cases with any diagnosis of ASD or VSD with PDA as the only procedure
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	Iatrogenic Pneumothorax – Neonates (PDI #4) – renamed PDI #4 to NQI#1
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	Neonatal Mortality (NQI #2) – added the Neonatal Mortality indicator
V 4.0	June 30, 2009	Software and Documentation	Software/ Documents	Blood Stream Infection – Neonates (NQI #3) – added the Blood Stream Infection – Neonates indicator
V4.0	June 30,2009	Software 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 and Documentation	Software/ Documents	Update Benchmarking Data to 2007 – used data from the 2007 SID for computation of benchmarks
V4.0	February 25, 2009	Accidental Puncture or Laceration (PDI 1) Denominator (Inclusion, spinal surgeries)	Coding	Add procedure codes to denominator inclusion for spinal surgeries (\$SPINEP) Add codes: 80.53 Repair of the annulus fibrosus with graft or prosthesis 80.54 Other and unspecified repair of the anulus fibrosus

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V4.0	February 25, 2009	Pressure Ulcer (PDI 2) Denominator (Exclusion, diagnosis of Stage I or Stage II)	Coding	Add denominator exclusion for diagnosis of Stage I or Stage II (\$DECUBVD) Add code: 707.20 PRESSURE ULCER, STAGE NOS 707.21 PRESSURE ULCER, STAGE I 707.22 PRESSURE ULCER, STAGE II
V4.0	February 25, 2009	Iatrogenic Pneumothorax (PDI 4 and 5) Denominator (Exclusion, diaphragmatic surgery repair)	Coding	Add procedure codes to denominator exclusion for diaphragmatic surgery repair (\$DIAPHRP) Add code: 53.71 Laparoscopic 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 55.83 Laparoscopic repair of diaphragmatic hernia, with thoracic approach 55.84 Other and open repair of diaphragmatic hernia, with thoracic approach
V4.0	February 25, 2009	Iatrogenic Pneumothorax (PDI 4 and 5) Denominator (Exclusion, pleural effusion)	Coding	Add diagnosis codes to denominator exclusion for pleural effusion (\$PLEURAD) Add code: 511.81 Malignant pleural effusion 511.89 Other specified forms of effusion, except tuberculosis
V4.0	February 25, 2009	Iatrogenic Pneumothorax (PDI 4 and 5) Denominator (Exclusion)	Coding	Replace the DRG denominator exclusion for cardiac surgery (\$CARDSDR) with a procedure code denominator exclusion for cardiac procedures (\$CARDSIP). See Table 1 in Appendix for cardiac procedure codes. Add code: 37.36 Excision or destruction of left atrial appendage (LAA) 37.55 Removal of internal biventricular heart replacement system 37.60 Implantation or insertion of biventricular external heart assist system

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V4.0	February 25, 2009	Pediatric Heart Surgery (PDI 6 and 7) Denominator (Inclusion, procedures to repair congenital heart defect)	Coding	Add procedure code to denominator inclusion for procedures to repair congenital heart defect (\$PRPED1P) Add code: 37.36 Excision or destruction of left atrial appendage (LAA)
V4.0	February 25, 2009	Postoperative Sepsis (PDI 10) Numerator (Inclusion, sepsis)	Coding	Add diagnosis code to numerator inclusion for sepsis (\$SEPTIID) Modify code: 38.11 Methicillin susceptible staphylococcus aureus septicemia Add code: 38.12 Methicillin resistant Staphylococcus aureus septicemia
V4.0	February 25, 2009	Postoperative Wound Dehiscence (PDI 11) Denominator (Inclusion, abdominopelvic procedures)	Coding	Add procedure codes to denominator inclusion for abdominopelvic procedures (\$ABDOMIP) 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 48.40 Pull-through resection of rectum, not otherwise specified 48.43 Open pull-through resection of the rectum, NOS 48.52 Open abdominoperineal resection of the rectum 48.59 Other abdominoperineal resection of the rectum 53.75 Repair of diaphragmatic hernia, abdominal approach, NOS

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.0	February 25, 2009	Gastroenteritis (PDI 16) Numerator (Exclusion, gastrointestinal abnormalities)	Coding	Add diagnosis codes to numerator exclusion for gastrointestinal abnormalities (\$ACGDISD) Add codes: 53570 EOSINOPHIL GASTRT WO HEM 53571 EOSINOPHILC GASTRT W HEM 558.41 Eosinophilic gastroenteritis 558.42 Eosinophilic colitis

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.0	February 25, 2009	Multiple – Immunocompromise d Denominator (Exclusion, high risk immuno- compromised)	Coding	Add diagnosis codes to denominator exclusion for high risk immunocompromised (\$IMMUNHD) Add codes: 199.2 Malignant neoplasm associated with transplanted organ 238.79 Other lymphatic and hematopoietic tissues 238.77 Post-transplant lymphoproliferative disorder 279.50 Graft-versus-host disease, unspecified 279.51 Acute graft-versus-host disease 279.52 Chronic graft-versus-host disease 279.53 Acute on chronic graft-versus-host disease V45.11 Renal dialysis status Add codes: 203.02 MULT MYELOMA IN RELAPSE 203.12 PLSM CEL LEUK IN RELAPSE 203.82 OTH IMNPRLF NEO-RELAPSE 204.92 ACT LYMP LEUK IN RELAPSE 204.12 CHR LYMP LEUK IN RELAPSE 204.12 CHR LYMP LEUK IN RELAPSE 204.22 SBAC LYM LEUK IN RELAPSE 204.92 LYMP LEUK IN RELAPSE 205.02 ACT MYEL LEUK IN RELAPSE 205.02 ACT MYEL LEUK IN RELAPSE 205.12 CHR MYEL LEUK IN RELAPSE 205.12 CHR MYEL LEUK IN RELAPSE 205.12 CHR MYEL LEUK IN RELAPSE 205.22 SBAC MYL LEUK IN RELAPSE 205.32 MYEL SARCOMA IN RELAPSE 205.92 MYEL SARCOMA IN RELAPSE 205.92 MYEL LEUK NOS IN RELAPSE 205.92 MYEL LEUK NOS IN RELAPSE 205.92 MYEL LEUK NOS IN RELAPSE 206.12 CHR MONO LEUK IN RELAPSE 206.12 CHR MONO LEUK IN RELAPSE 206.12 CHR MONO LEUK IN RELAPSE 206.22 SBAC MONO LEUK IN RELAPSE 206.92 MONO LEUK NOS RELAPSE

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
				207.02 AC ERTH/ERYLK IN RELAPSE 207.12 CHR ERYTHRMIA IN RELAPSE 207.22 MGKRYCYT LEUK IN RELAPSE 207.82 OTH SPF LEUK IN RELAPSE 208.02 AC LEUK UNS CL RELAPSE 208.12 CH LEU UNS CL IN RELAPSE 208.22 SBAC LEU UNS CL-RELAPSE 208.82 OTH LEUK UNS CL-RELAPSE 208.92 LEUKEMIA NOS IN RELAPSE

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.0	February 25, 2009	Multiple – Infection Denominator (Exclusion, infection)	Coding	Add diagnosis codes to denominator exclusion for infection (\$INFECID) Modify codes: 038.11 Methicillin susceptible staphylococcus aureus septicemia 041.11 Methicillin susceptible staphylococcus aureus 482.41 Methicillin susceptible pneumonia due to staphylococcus aureus Add codes: 038.12 Methicillin resistant Staphylococcus aureus septicemia 041.12 Methicillin resistant Staphylococcus aureus (MRSA) 482.42 Methicillin resistant pneumonia due to staphylococcus aureus 707.20 Pressure ulcer unspecified stage 707.22 Pressure ulcer stage II 707.23 Pressure ulcer stage II 707.24 Pressure ulcer stage III 707.25 Necrotizing enterocolitis in newborn, unspecified 777.51 Stage I necrotizing enterocolitis in newborn 777.52 Stage II necrotizing enterocolitis in newborn 777.53 Stage III necrotizing enterocolitis in newborn Delete codes (for discharges after 2008Q4 effective October 1, 2008): 707.1 PRESSURE ULCER, SITE NOS 707.2 PRESSURE ULCER, ELBOW 707.3 PRESSURE ULCER, ELBOW 707.4 PRESSURE ULCER, LOW BACK 707.5 PRESSURE ULCER, HIP 707.6 PRESSURE ULCER, BUTTOCK 707.7 PRESSURE ULCER, BUTTOCK 707.7 PRESSURE ULCER, HEEL 707.09 PRESSURE ULCER, HEEL 707.09 PRESSURE ULCER, SITE NEC

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.0	February 25, 2009	Pressure Ulcer (PDI 2) Denominator (Exclusion, hemi- and paraplegia)	Indicator Specification Change	Add diagnosis code to denominator exclusion for hemi- and paraplegia (\$HEMIPID) Add code: 334.1 Hereditary spastic paraplegia
V4.0	February 25, 2009	Iatrogenic Pneumothorax (PDI 4 and 5) Denominator (Exclusion)	Indicator Specification Change	Replace the DRG denominator exclusion for cardiac surgery (\$CARDSDR) with procedure code denominator exclusion for cardiac procedures (\$CARDSIP). See Table 1 in Appendix for cardiac procedure codes.
V4.0	February 25, 2009	Iatrogenic Pneumothorax (PDI 4 and 5) Denominator (Exclusion, thoracic procedures)	Indicator Specification Change	Add procedure codes to denominator exclusion for thoracic procedures (\$THORAIP) Add codes: 5.22 Sympathectomy Cervical 5.23 Sympathectomy Lumbar 05.29 Other sympathectomy and ganglionectomy 7.80 Thymectomy, not otherwise specified 7.81 Other partial excision of thymus 7.82 Other total excision of thymus 7.83 Thoracoscopic partial excision of thymus 7.84 Thoracoscopic total excision of thymus 32.49 Other lobectomy of lung

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.0	February 25, 2009	Postoperative Respiratory Failure (PDI 9) Denominator (Exclusion)	Indicator Specification Change	Add denominator exclusion for craniofacial anomalies with 1) a procedure code for laryngeal or pharyngeal surgery (\$CRANI1P) or 2) a procedure on face (\$CRANI2P) and a diagnosis code of craniofacial abnormalities (\$CRANIID). Add codes for pharyngeal surgery (\$CRANI1P): 25.3 Complete glossectomy 25.4 Radical glossectomy 27.31 Local excision or destruction of lesion or tissue of bony palate 29.0 Pharyngotomy 29.33 Pharyngectomy (partial) 29.39 Other excision or destruction of lesion or tissue of pharynx 29.4 Plastic operation on pharynx 29.53 Closure of other fistula of pharynx 29.59 Other repair of pharynx 29.91 Dilation of pharynx 30.09 Other excision or destruction of lesion or tissue of larynx 30.21 Epiglottidectomy 30.22 Vocal cordectomy 30.3 Complete laryngectomy 30.4 Radical laryngectomy 30.3 Complete laryngectomy 31.3 Other incision of larynx or trachea 31.5 Local excision or destruction of lesion or tissue of trachea 31.69 Other repair of larynx 31.73 Closure of other fistula of trachea 31.75 Reconstruction of trachea and construction of artificial larynx 31.79 Other repair and plastic operations on trachea 31.98 Other operations on trachea

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
				Add codes for procedure on face (\$CRANI2P): 25.2 Partial glossectomy 25.59 Other repair and plastic operations on tongue 27.32 Wide excision or destruction of lesion or tissue of bony palate 27.62 Correction of cleft palate 27.63 Revision of cleft palate repair 27.69 Other plastic repair of palate 29.31 Cricopharyngeal myotomy 76.65 Segmental osteoplasty [osteotomy] of maxilla 76.46 Total osteoplasty [osteotomy] of maxilla 76.46 Other reconstruction of other facial bone 76.69 Other facial bone repair 76.91 Bone graft to facial bone Add codes for craniofacial abnormalities (\$CRANIID). 744.83 Macrostomia 744.9 Unspecified anomalies of face and neck 748.3 Congenital anomalies of skull and face bones 756.0 Tracheomalacia and congenital tracheal stenosis
V4.0	February 25, 2009	Postoperative Sepsis (PDI 10) Numerator (Inclusion)	Indicator Specification Change	Remove diagnosis code from numerator inclusion for sepsis (\$SEPTIID) for discharges after 2004Q4 (effective October 1, 2004) Drop code: 785.59 Shock without mention of trauma, other
V4.0	February 25, 2009	Hospital Acquired Vascular Catheter Related Infections (PDI 12)	Indicator Specification Change	Rename the indicator from "Selected infections due to medical care" to "Hospital acquired vascular catheter related infections"

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.0	February 25, 2009	Gastroenteritis (PDI 16) Numerator (Exclusion, gastrointestinal abnormalities)	Indicator Specification Change	Add diagnosis code to numerator exclusion for gastrointestinal abnormalities (\$ACGDISD) Add code: 538 Gastrointestinal mucositis (ulcerative)
V4.0	February 25, 2009	Multiple – Infection Denominator (Exclusion, infection)	Indicator Specification Change	Remove diagnosis codes for non-bacterial infections from denominator exclusion for infection (\$INFECID) Drop codes: 376.00 ACUTE INFLAM NOS, ORBIT 386.30 LABYRINTHITIS NOS 386.31 SEROUS LABYRINTHITIS 386.32 CIRCUMSCRI LABYRINTHITIS 598.1 URETHR STRICT:INFECT NOS 598.2 URETH STRICT:OTH INFECT 686.01 PYODERMA GANGRENOSUM Add diagnosis code to denominator exclusion for infection (\$INFECID) Add codes: 078.3 CAT-SCRATCH DISEASE

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V4.0	February 25, 2009	Multiple – Major Operating Room Procedures Denominator (Inclusion)	Indicator Specification Change	Remove procedure codes from the denominator inclusion for major operating room procedures (\$ORPROC) Drop codes: 38.7 INTERRUPTION VENA CAVA 41.0 LYMPH STRUCTURE OP NEC 41.1 BONE MARROW TRNSPLNT NOS 41.2 AUTO BONE MT W/O PURG 41.3 ALO BONE MARROW TRNSPLNT 41.4 ALLOGRFT BONE MARROW NOS 41.5 AUTO HEM STEM CT W/O PUR 41.6 ALLO HEM STEM CT W/O PUR 41.7 CORD BLD STEM CELL TRANS 41.8 AUTO HEM STEM CT W PURG 41.9 ALLO HEM STEM CT W PURG 41.10 AUTO BONE MT W PURGING
V4.0	February 25, 2009	Iatrogenic Pneumothorax – Neonates (PDI 4)	Indicator Specification Change	Rename PDI 4 to NQI 1
V4.0	February 25, 2009	Neonatal Mortality (NQI 2)	Indicator Specification Change	Add the Neonatal Mortality indicator
V4.0	February 25, 2009	Blood Stream Infection – Neonates (NQI 3)	Indicator Specification Change	Add the Blood Stream Infection – Neonates indicator

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V 3.2	March 10, 2008	Iatrogenic Pneumothorax (PDI #5) Denominator (Exclusion, Thoracic Surgery)	Coding	Added new codes: 32.20 THORAC EXC LUNG LESION 32.30 THORAC SEG LUNG RESECT 32.39 OTH SEG LUNG RESECT NOS 32.41 THORAC LOBECTOMY LUNG 32.50 THORACOSPC PNEUMONECTOMY 32.59 OTHER PNEUMONECTOMY NOS 33.20 THORACOSCOPC LUNG BIOPSY 34.20 THORACOSCOPIC PLEURAL BX 34.52 THORACOSCOPC DECORT LUNG
V 3.2	March 10, 2008	Selected Infections due to Medical Care (PDI #12) Numerator (Inclusion)	Coding	Added new code 999.31 INFECT D/T CENT VEN CATH
V 3.2	March 10, 2008	Multiple PDI Indicators Exclusion (Infection)	Coding	Add new codes 040.41 INFANT BOTULISM and 040.42 WOUND BOTULISM
V 3.2	March 10, 2008	Multiple PDI Indicators	Coding	Updated DRG to Version 25.0
V 3.2	March 10, 2008	Software and Documentation	Software/ Documents	PDI #1 (Accidental puncture or laceration) – Added an exclusion for discharges with an ICD-9-CM procedure code for spine surgery PDI #13 (Transfusion Reaction) – Revised the indicator from a rate to a count PDI #3 (Foreign Body left in During Procedure) – Revised the indicator from a rate to a count and to require the POA flag
V 3.1a	March 16, 2007	SAS Software and Documentation	Software/ Documents	Added program to calculate the pediatric patient safety composite measure. The new files are PDI_COMPOSITE.SAS and MSXPDC31.TXT.

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES	
V 3.1a	March 16, 2007	Software (PDSASA2)	Software/ Documents	Amended the aggregation algorithm to correctly sum the numerator and denominator counts across stratifiers.	
V 3.1	March 12, 2007	Software (SAS and Windows) and Technical Specifications	Software/ Documents	Revised numerator inclusion criteria for Postoperative Hemorrhage and Hematoma (PDI #8) to include a diagnosis of hemorrhage or hematoma and a procedure for control of hemorrhage or drainage of hematoma.	
V 3.1	March 12, 2007	Covariates. Software (SAS and Windows),	Software/ Documents	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. Updated the coefficients used in the calculation of expected andrisk-adjusted rates to the reference population, based on the 2002-2004 State Inpatient Data (SID).	
V 3.1	March 12, 2007	Covariates, Software (SAS and Windows), Software Documentation	Software/ Documents	Included an option to incorporate the present on admission indicator into the specifications. In general, cases where the outcome of interest is present on admission are excluded from the denominator, as these cases are no longer at risk of having the outcome of interest occur during the hospitalization. The release also includes alternative parameter files of risk-adjustment covariates and population rates using 2002-2004 SID data from California and New Yo	
V 3.1	March 12, 2007	Software (SAS and Windows)	Software/ Documents	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. Added capability to apply weight value to each discharge. The syntax computes 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 RPPDxx variables and their confidence intervals are observed/expected ratios to avoid confounding with risk adjustment variables.	

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES	
V 3.0b	September 29, 2006	Windows	Software/ Documents	Implemented the pediatric risk adjustment.	
V 3.0b	September 29, 2006	SAS Software	Software/ Documents	Changed the PAGECAT stratification data element to correctly assign non-integer AGE values. Changed PHS_RACHS1.TXT syntax to correctly assign the risk category when AGE > 0 and AGEDAY is missing. In general, these cases are now assigned to a lower risk category (impacts about 3% of cases).	
V 3.0b	September 29, 2006	Technical Specifications and Software	Software/ Documents	PedQI #1, #3, #6, #10-12. Changed the exclusion from newborns less than 500 to neonates less than 500g.	
V 3.0b	September 29, 2006	Measures	Software/ Documents	Revised the text to clarify clinical panel recommendations of indicators for inclusion in Pediatric module and those deferred for further development. Added description of Pediatric Heart Surgery Volume.	
V 3.0a	May 1, 2006	SAS	Software/ Documents	Implemented the pediatric risk adjustment.	
V 3.0a	May 1, 2006	SAS Software	Software/ Documents	PDSAS1.SAS – Corrected the principal diagnosis exclusion for PedQI#8. PDSASA2.SAS – Corrected the denominator calculation for PedQI#17	
V 3.0a	May 1, 2006	Technical Specifications	Software/ Documents	PedQI #2 – Added exclusion for cases with an ICD-9-CM procedure code of debridement or pedicle graft as the only major operating room procedures (surgical cases only) PedQI #4/#5 – Added exclusion for cases with ICD-9-CM procedure code of diaphragmatic surgery repair PedQIs #16 and #18– Modified exclusion to cases with age less than or equal to 90 days (or neonates if age in days is missing) Deleted ICD-9-CM procedure code 41.0 from the list of major operating room procedure codes Intermediate Risk Immuno-compromised state – Clarified that codes for hepatic failure must be accompanied by codes for cirrhosis.	

VERSION/ REVISION NUMBER	DATE	COMPONENT	NATURE OF CHANGE	CHANGES
V 3.0a	May 1, 2006	Technical Specifications and Software	Software/ Documents	Corrected ICD-9-CM diagnosis codes 590.00 and 590.01 in the numerator exclusion for PedQI #18. Dropped ICD-9-CM diagnosis codes 585.1, 585.2, 585.3, 585.4 and 585.9 from the high risk immunocompromised state specification. Added ICD-9-CM diagnosis codes 276.50, 276.51 and 276.52 to the numerator specification for PedQI #16. Refined the definition of neonate by dropping the DRG and MDC inclusion criteria. Refined the newborn definition by requiring that age in days be equal to zero (or missing if there is a liveborn diagnosis code).
V 3.0	February 20, 2006	Technical Specifications and Software	Software/ Documents	Dropped ICD-9-CM diagnosis code 5185 from numerator specification for PedQI #9. Dropped exclusion of all newborns and neonates transferring from another institution, added exclusion of neonates for PedQI #10.

Appendices

Appendix A. Cardiac Procedure Codes as of February 2009

0=40	005111/411/411 001 4071/4100		
3510	OPEN VALVULOPLASTY NOS	3613	AORTOCOR BYPAS-3 COR ART
3511	OPN AORTIC VALVULOPLASTY	3614	AORTCOR BYPAS-4+ COR ART
3512	OPN MITRAL VALVULOPLASTY	3615	1 INT MAM-COR ART BYPASS
3513	OPN PULMON VALVULOPLASTY	3616	2 INT MAM-COR ART BYPASS
3514	OPN TRICUS VALVULOPLASTY	3617	ABD-CORON ARTERY BYPASS
			HRT REVAS BYPS ANAS NEC
3520	OPN/OTH REP HRT VLV NOS	3619	
3521	OPN/OTH REP AORT VLV-TIS	362	ARTERIAL IMPLANT REVASC
3522	OPN/OTH REP AORTIC VALVE	3631	OPEN CHEST TRANS REVASC
3523	OPN/OTH REP MTRL VLV-TIS	3632	OTH TRANSMYO REVASCULAR
3524	OPN/OTH REP MITRAL VALVE	3639	OTH HEART REVASCULAR
3525	OPN/OTH REP PULM VLV-TIS	3691	CORON VESS ANEURYSM REP
3526	OPN/OTH REPL PUL VALVE	3699	HEART VESSEL OP NEC
3527	OPN/OTH REP TCSPD VLV-TS		
		370	PERICARDIOCENTESIS
3528	OPN/OTH REPL TCSPD VALVE	3710	INCISION OF HEART NOS
3531	PAPILLARY MUSCLE OPS	3711	CARDIOTOMY
3532	CHORDAE TENDINEAE OPS	3712	PERICARDIOTOMY
3533	ANNULOPLASTY	3731	PERICARDIECTOMY
3534	INFUNDIBULECTOMY	3732	HEART ANEURYSM EXCISION
3535	TRABECUL CARNEAE CORD OP	3733	EXC/DEST HRT LESION OPEN
3539	TISS ADJ TO VALV OPS NEC	3735	PARTIAL VENTRICULECTOMY
3550	PROSTH REP HRT SEPTA NOS	3741	IMPL CARDIAC SUPPORT DEV
3551	PROS REP ATRIAL DEF-OPN		HEART/PERICARD REPRINEC
		3749	
3553	PROS REP VENTRIC DEF-OPN	3751	HEART TRANSPLANTATION
3554	PROS REP ENDOCAR CUSHION	3752	IMP TOT INT BI HT RP SYS
3560	GRFT REPAIR HRT SEPT NOS	3753	REPL/REP THR UNT TOT HRT
3561	GRAFT REPAIR ATRIAL DEF	3754	REPL/REP OTH TOT HRT SYS
3562	GRAFT REPAIR VENTRIC DEF	3761	PULSATION BALLOON IMPLAN
3563	GRFT REP ENDOCAR CUSHION	3762	INSRT NON-IMPL CIRC DEV
3570	HEART SEPTA REPAIR NOS	3763	REPAIR HEART ASSIST SYS
3571	ATRIA SEPTA DEF REP NEC	3764	REMVE EXT HRT ASSIST SYS
3572	VENTR SEPTA DEF REP NEC	3765	IMP VENT EXT HRT AST SYS
3573	ENDOCAR CUSHION REP NEC	3766	IMPLANTABLE HRT ASSIST
	TOT REPAIR TETRAL FALLOT		
3581		3767	IMP CARDIOMYOSTIMUL SYS
3582	TOTAL REPAIR OF TAPVC	3791	OPN CHEST CARDIAC MASSAG
3583	TOT REP TRUNCUS ARTERIOS	3804	INCISION OF AORTA
3584	TOT COR TRANSPOS GRT VES	3805	THORACIC VESSEL INC NEC
3591	INTERAT VEN RETRN TRANSP	3844	RESECT ABDM AORTA W REPL
3592	CONDUIT RT VENT-PUL ART	3845	RESECT THORAC VES W REPL
3593	CONDUIT LEFT VENTR-AORTA	3864	EXCISION OF AORTA
3594	CONDUIT ARTIUM-PULM ART	3865	THORACIC VESSEL EXCISION
3595	HEART REPAIR REVISION	3884	OCCLUDE AORTA NEC
3598	OTHER HEART SEPTA OPS	3885	OCCLUDE THORACIC VES NEC
3599	OTHER HEART VALVE OPS		
		390	SYSTEMIC-PULM ART SHUNT
3603	OPEN CORONRY ANGIOPLASTY	3921	CAVAL-PULMON ART ANASTOM
3610	AORTOCORONARY BYPASS NOS	3922	AORTA-SUBCLV-CAROT BYPAS
3611	AORTOCOR BYPAS-1 COR ART	3923	INTRATHORACIC SHUNT NEC
3612	AORTOCOR BYPAS-2 COR ART		

Appendix B. ICD-9-CM Codes for Corresponding CCS Categories as of September 2010

0700	HEPATITIS A WITH COMA	20048	MANTLE CELL LYMPH MULTIP
0701	HEPATITIS A W/O COMA	20050	PRIMARY CNS LYMPH XTRNDL
0702	HEPATITIS B WITH COMA*	20051	PRIMARY CNS LYMPH HEAD
07020	HPT B ACTE COMA WO DLTA	20052	PRIMARY CNS LYMPH THORAX
07021	HPT B ACTE COMA W DLTA	20053	PRIMARY CNS LYMPH ABDOM
07022	HPT B CHRN COMA WO DLTA	20054	PRIMARY CNS LYMPH AXILLA
07023	HPT B CHRN COMA W DLTA	20055	PRIMARY CNS LYM INGUIN
07023	HEPATITIS B W/O COMA*	20056	PRIMARY CNS LYMPH PELVIC
07030	HPT B ACTE WO CM WO DLTA	20057	PRIMARY CNS LYMPH SPLEEN
07030	HPT B ACTE WO CM W DLTA	20058	PRIMARY CNS LYMPH MULTIP
07031	HPT B CHRN WO CM WO DLTA	20060	ANAPLASTIC LYMPH XTRNDL
07032	HPT B CHRN WO CM W DLTA	20061	ANAPLASTIC LYMPH HEAD
07033	VIRAL HEPAT NEC W COMA*	20061	ANAPLASTIC LYMPH HEAD
0704	HPT C ACUTE W HEPAT COMA	20061	ANAPLASTIC LYMPH THORAX
07041	HPT DLT WO B W HPT COMA	20062	ANAPLASTIC LYMPH THORAX
07042	HPT E W HEPAT COMA	20062	ANAPLASTIC LYMPH ABDOM
07043	CHRNC HPT C W HEPAT COMA	20063	ANAPLASTIC LYMPH ABDOM
07044	OTH VRL HEPAT W HPT COMA	20063	ANAPLASTIC LYMPH ABDOM ANAPLASTIC LYMPH AXILLA
07049	VIRAL HEPAT NEC W/O COMA*	20064	ANAPLASTIC LYMPH AXILLA
0705 07051		20064	ANAPLASTIC LYMPH AXILLA ANAPLASTIC LYMPH INGUIN
	HPT C ACUTE WO HPAT COMA	20065	ANAPLASTIC LYMPH INGUIN ANAPLASTIC LYMPH INGUIN
07052	HPT DLT WO B WO HPT COMA		ANAPLASTIC LYMPH INGUIN ANAPLASTIC LYMPH PELVIC
07053	HPT E WO HEPAT COMA	20066	
07054	CHRNC HPT C WO HPAT COMA	20066	ANAPLASTIC LYMPH PELVIC
07059	OTH VRL HPAT WO HPT COMA	20067	ANAPLASTIC LYMPH SPLEEN
0706	VIRAL HEPAT NOS W COMA	20067	ANAPLASTIC LYMPH SPLEEN
07070	HPT C W/O HEPAT COMA NOS	20068	ANAPLASTIC LYMPH MULTIP
07071	HPT C W HEPATIC COMA NOS	20068	ANAPLASTIC LYMPH MULTIP
0709	VIRAL HEPAT NOS W/O COMA	20070	LARGE CELL LYMPH XTRNDL
20030	MARGNL ZONE LYM XTRNDL	20070	LARGE CELL LYMPH XTRNDL
20030	MARGNL ZONE LYM XTRNDL	20071	LARGE CELL LYMPHOMA HEAD
20031	MARGIN ZONE LYM HEAD	20071	LARGE CELL LYMPHOMA HEAD
20031	MARGIN ZONE LYM HEAD	20072	LARGE CELL LYMPH THORAX
20032	MARGIN ZONE LYM THORAX	20072	LARGE CELL LYMPH THORAX
20032	MARGIN ZONE LYM THORAX	20073	LARGE CELL LYMPH ABDOM
20033	MARGIN ZONE LYM ABDOM	20073	LARGE CELL LYMPH ABDOM
20033	MARGIN ZONE LYM ABDOM	20074	LARGE CELL LYMPH AXILLA
20034	MARGIN ZONE LYM AXILLA	20074	LARGE CELL LYMPH AXILLA
20034	MARGIN ZONE LYM AXILLA	20075	LARGE CELL LYMPH INGUIN
20035	MARGIN ZONE LYM INGUIN	20075	LARGE CELL LYMPH INGUIN
20035	MARGIN ZONE LYM INGUIN	20076	LARGE CELL LYMPH PELVIC
20036	MARGIN ZONE LYM PELVIC	20077	LARGE CELL LYMPH SPLEEN
20037	MARGIN ZONE LYMPH SPLEEN	20078	LARGE CELL LYMPH MULTIP
20038	MARGIN ZONE LYMPH MULTIP	20270	PERIPH T CELL LYM XTRNDL
20040	MANTLE CELL LYM XTRRNDL	20271	PERIPH T CELL LYMPH HEAD
20041	MANTLE CELL LYMPH HEAD	20272	PERIPH T CELL LYM THORAX
20042	MANTLE CELL LYMPH THORAX	20273	PERIPH T CELL LYM ABDOM
20043	MANTLE CELL LYMPH ABDOM	20274	PERIPH T CELL LYM AXILLA
20044	MANTLE CELL LYMPH AXILLA	20275	PERIPH T CELL LYM INGUIN
20045	MANTLE CELL LYMPH INGUIN	20276	PERIPH T CELL LYM PELVIC
20046	MANTLE CELL LYMPH PELVIC	20277	PERIPH T CELL LYM SPLEEN
20047	MANTLE CELL LYMPH SPLEEN	20278	PERIPH T CELL LYM MULTIP

20312	PLSM CEL LEUK IN RELAPSE	32730	CIRCADIAN RHYM SLEEP NOS
20402	ACT LYMP LEUK IN RELAPSE	32731	CIRCADIAN RHY-DELAY SLP
20402	CHR LYMP LEUK IN RELAPSE	32732	CIRCADIAN RHY-ADVC SLEEP
20412	SBAC LYM LEUK IN RELAPSE	32733	CIRCADIAN RHYM-IRREG SLP
	OTH LYM LEUK IN RELAPSE		
20482		32734	CIRCADIAN RHYM-FREE RUN
20482	OTH LYM LEUK IN RELAPSE	32735	CIRCADIAN RHYTHM-JETLAG
20492	LYMP LEUK NOS RELAPSE	32736	CIRCADIAN RHY-SHIFT WORK
20502	ACT MYEL LEUK IN RELAPSE	32737	CIRCADIAN RHYM OTH DIS
20512	CHR MYEL LEUK IN RELAPSE	32739	CIRCADIAN RHYM SLEEP NEC
20522	SBAC MYL LEUK IN RELAPSE	32753	SLEEP RELATED BRUXISM
20532	MYEL SARCOMA IN RELAPSE	3315	NORML PRESSURE HYDROCEPH
20582	OTH MYEL LEUK IN RELAPSE	33183	MILD COGNITIVE IMPAIREMT
20592	MYEL LEUK NOS IN RELAPSE	33700	IDIO PERPH AUTO NEUR NOS
20602	ACT MONO LEUK IN RELAPSE	33701	CAROTID SINUS SYNDROME
20612	CHR MONO LEUK IN RELAPSE	33709	IDIO PERPH AUTO NEUR NEC
20622	SBAC MONO LEU IN RELAPSE	34881	TEMPORAL SCLEROSIS
20682	OTH MONO LEUK IN RELAPSE	34889	BRAIN CONDITIONS NEC
20692	MONO LEUK NOS RELAPSE	34939	DURAL TEAR NEC
20702	AC ERTH/ERYLK IN RELAPSE	35921	MYOTONIC MUSCLR DYSTRPHY
20712	CHR ERYTHRMIA IN RELAPSE	35922	MYOTONIA CONGENITA
20722	MGKRYCYT LEUK IN RELAPSE	35923	MYOTONIC CHONDRODYSTRPHY
20782	OTH SPF LEUK IN RELAPSE	35924	DRUG INDUCED MYOTONIA
20802	AC LEUK UNS CL RELAPSE	35929	MYOTONIC DISORDER NEC
20812	CH LEU UNS CL IN RELAPSE	35971	INCLUSION BODY MYOSITIS
20822	SBAC LEU UNS CL-RELAPSE	35979	INFLM/IMMUNE MYOPATH NEC
20882	OTH LEUK UNS CL-RELAPSE	4041	BEN HYPERT HRT/RENAL DIS*
20892	LEUKEMIA NOS IN RELAPSE	41512	SEPTIC PULMONARY EMBOLSM
20092	MALIG CARCINOID THYMUS	4162	CHR PULMONARY EMBOLISM
	MALIG CARCINOID HTTMIOS MALIG CARCINOID KIDNEY		LONG QT SYNDROME
20924	MALIG CARCINOID KIDNEY MALIG CARCINOID KIDNEY	42682	
20924		51181	MALIGNANT PLEURAL EFFUSN
20925	MAL CARCNOID FOREGUT NOS	53013	EOSINOPHILIC ESOPHAGITIS
20926	MAL CARCINOID MIDGUT NOS	57142	AUTOIMMUNE HEPATITIS
20927	MAL CARCNOID HINDGUT NOS	72990	SOFT TISSUE DISORD NOS
20971	SEC NEUROEND TU DIST LYM	72991	POST-TRAUMATIC SEROMA
20972	SEC NEUROEND TUMOR-LIVER	72992	NONTRAUMA HEMA SOFT TISS
20973	SEC NEUROENDO TUMOR-BONE	72999	SOFT TISSUE DISORDER NEC
20974	SEC NEUROENDO TU-PERITON	75672	OMPHALOCELE
25541	GLUCOCORTICOID DEFICIENT	75673	GASTROSCHISIS
25542	MINERALCORTICOID DEFCNT	76061	AMNIOCENTESIS AFFECT NB
25801	MULT ENDO NEOPLAS TYPE I	76062	IN UTERO PROC NEC AFF NB
25950	ANDROGEN INSENSITVTY NOS	76063	MAT SURG DUR PREG AFF NB
25951	ANDROGEN INSENSITVTY SYN	76064	PREV MATERN SURG AFF NB
25952	PART ANDROGEN INSNSITVTY	77750	NEC ENTEROCOLTIS NB NOS
2755	HUNGRY BONE SYNDROME	77751	STG I NEC ENTEROCOL NB
27941	AUTOIMMUN LYMPHPROF SYND	77752	STG II NEC ENTEROCOL NB
27949	AUTOIMMUNE DISEASE NEC	77753	STG III NEC ENTEROCOL NB
2865	INTR CIRCUL ANTICOAG DIS#	77931	NB FEEDING PROBLEMS
2866	DEFIBRINATION SYNDROME	77932	NB BILIOUS VOMITING
2867	ACQ COAGUL FACTOR DEFIC	77933	NB OTHER VOMITING
2874	SECOND THROMBOCYTOPENIA#	77934	NB FAILURE TO THRIVE
28866	BANDEMIA	78072	FUNCTIONAL QUADRIPLEGIA
28982	SEC HYPERCOAGULABLE ST	782	SKIN/OTH INTEGUMENT SYMP*
28984	HEPARIN-INDU THROMBOCYTO	78451	DYSARTHRIA
32702	INSOMNIA DT MENTAL DISOR	78459	SPEECH DISTURBANCE NEC
32715	HYPERSOM DT MENTAL DISOR	78951	MALIGNANT ASCITES
			

78959	ASCITES NEC	V1053	HX MALIG RENAL PELVIS
7897	COLIC	V1053	HX MALIG RENAL PELVIS
79510	ABN GLAND PAP SMR VAGINA	V1090	HX MALIG NEOPLASM NOS
79511	PAP SMEAR VAG W ASC-US	V1091	HX MALIG NEUROENDO TUMO
79512	PAP SMEAR VAGINA W ASC-H	V1359	HX MUSCULOSKLETL DIS NEO
79513	PAP SMEAR VAGINA W LGSIL	V4511	RENAL DIALYSIS STATUS
79514	PAP SMEAR VAGINA W HGSIL	V4512	NONCMPLNT W RENAL DIALY

Appendix C. Miscellaneous Hemorrhage or Hematoma-related Procedure Codes as of December 2012

0121	CRANIAL SINUS I & D	2109	EPISTAXIS CONTROL NEC
0124	OTHER CRANIOTOMY	211	INCISION OF NOSE
0131	INCISE CEREBRAL MENINGES	2121	RHINOSCOPY
0139	OTHER BRAIN INCISION	2219	NASAL SINUS DX PROC NEC
0133	MENINGE VESSEL LIGATION	2239	EXT MAXILLARY ANTROT NEC
0213	VENT SHUNT EXTRACRAN NEC	2239	FRONTAL SINUSOTOMY
0241	IRRIGATE/EXPL VENT SHUNT	2251	ETHMOIDOTOMY
0309	SPINAL CANAL EXPLOR NEC	2252	SPHENOIDOTOMY
0401	EXCISION ACOUSTC NEUROMA	260	INCIS SALIVARY GLND/DUCT
0404	PERIPH NERVE INCIS NEC	270	DRAIN FACE & MOUTH FLOOR
0443	CARPAL TUNNEL RELEASE	280	PERITONSILLAR I & D
0444	TARSAL TUNNEL RELEASE	2911	PHARYNGOSCOPY
0602	REOPEN THYROID FIELD WND	313	INCIS LARYNX TRACHEA NEC
0609	INCIS THYROID FIELD NEC	3141	TRACHEOSCOPY THRU STOMA
0692	THYROID VESSEL LIGATION	3142	LARYGNOSCOPY/TRACHEOSCOP
0700	ADRENAL EXPLORATION NOS	330	INCISION OF BRONCHUS
0701	UNILAT ADRENAL EXPLORAT	331	INCISION OF LUNG
0702	BILAT ADRENAL EXPLORAT	3322	FIBER-OPTIC BRONCHOSCOPY
0741	ADRENAL INCISION	3323	OTHER BRONCHOSCOPY
0743	ADRENAL VESSEL LIGATION	3324	CLOSED BRONCHIAL BIOPSY
0751	PINEAL FIELD EXPLORATION	3402	EXPLORATORY THORACOTOMY
0752	PINEAL GLAND INCISION	3403	REOPEN THORACOTOMY SITE
0771	PITUITARY FOSSA EXPLORAT	3409	OTHER PLEURAL INCISION
0772	PITUITARY GLAND INCISION	341	INCISION OF MEDIASTINUM
0791	THYMUS FIELD EXPLORATION	3421	TRANSPLEURA THORACOSCOPY
0792	OTHER INCISION OF THYMUS	3422	MEDIASTINOSCOPY
0795	THORAC INCISION THYMUS	3582	TOTAL REPAIR OF TAPVC
0809	OTHER EYELID INCISION	3639	OTH HEART REVASCULAR
090	LACRIMAL GLAND INCISION	3699	HEART VESSEL OP NEC
0953	LACRIMAL SAC INCISION	370	PERICARDIOCENTESIS
1244	EXCISE CILIARY BODY LES	3711	CARDIOTOMY
1289	SCLERAL OPERATION NEC	3799	OTHER HEART/PERICARD OPS
149	OTHER POST SEGMENT OPS	3800	INCISION OF VESSEL NOS
1609	ORBITOTOMY NEC	3801	INTRACRAN VESSEL INCIS
1802	EXT AUDITORY CANAL INCIS	3802	HEAD/NECK VES INCIS NEC
1809	EXTERNAL EAR INCIS NEC	3803	UPPER LIMB VESSEL INCIS
1811	OTOSCOPY	3804	INCISION OF AORTA
2001	MYRINGOTOMY W INTUBATION	3805	THORACIC VESSEL INC NEC
2009	MYRINGOTOMY NEC	3806	ABDOMEN ARTERY INCISION
2021	MASTOID INCISION	3807	ABDOMINAL VEIN INCISION
2021	PETRUS PYRAM AIR CEL INC	3808	LOWER LIMB ARTERY INCIS
2022	MIDDLE EAR INCISION	3809	LOWER LIMB VEIN INCISION
2023	INC/EXC/DESTR IN EAR NEC	3850	VARICOSE V LIG-STRIP NOS
2100	CONTROL OF EPISTAXIS NOS	3851	INTCRAN VAR V LIG-STRIP
2100	ANT NASAL PACK FOR EPIST	3852	HEAD/NECK VAR V LIG-STRIP
2101	POST NASAL PACK FOR EPIST	3853	ARM VARICOSE V LIG-STRIP
			THORAC VAR V LIG-STRIP
2103 2104	CAUTERY TO STOP EPISTAX ETHMOID ART LIGAT-EPIST	3855	ABD VARICOS V LIGA-STRIP
		3857	LEG VARICOS V LIGA-STRIP
2105	MAX ART LIG FOR EPISTAX	3859	
2106	EXT CAROT ART LIG-EPIST	387	INTERRUPTION VENA CAVA
2107	NASAL SEPT GRFT-EPISTAX	3930	SUTURE OF VESSEL NOS

3931	SUTURE OF ARTERY	5184	ENDOSC DILATION AMPULLA
3932	SUTURE OF VEIN	5188	ENDOSC BILATION AMII GELA ENDOSC REMOVE BILE STONE
3952	ANEURYSM REPAIR NEC	5196	PERC EXTRAC COM DUC CALC
3953	ARTERIOVEN FISTULA REP	5198	OTH PERC PROC BIL TRCT
3972	ENDOVASC EMBOL HD/NK VES	5209	PANCREATOTOMY NEC
3979	OTH ENDO PROC OTH VESSEL	5213	ENDOSC RETRO PANCREATOG
398	CARTD BODY/SINUS/VASC OP#	5411	EXPLORATORY LAPAROTOMY
400	INCIS LYMPHATIC STRUCTUR	5419	LAPAROTOMY NEC
412	SPLENOTOMY	5421	LAPAROSCOPY
4209	ESOPHAGEAL INCISION NEC	5495	PERITONEAL INCISION
4221	ESOPHAGOSCOPY BY INCIS	5501	NEPHROTOMY
4222	ESOPHAGOSCOPY THRU STOMA	5511	PYELOTOMY
4223	ESOPHAGOSCOPY NEC	5521	NEPHROSCOPY
4233	ENDOSC DESTRUC ESOPH LES	5522	PYELOSCOPY
4239	DESTRUCT ESOPHAG LES NEC	562	URETEROTOMY
4291	LIGATION ESOPH VARIX	5631	URETEROSCOPY
430	GASTROTOMY	5719	CYSTOTOMY NEC
4341	ENDOSC DESTR STOMACH LES	5731	CYSTOSCOPY THRU STOMA
4411	TRANSABDOMIN GASTROSCOPY	5732	CYSTOSCOPY NEC
4412	GASTROSCOPY THRU STOMA	580	URETHROTOMY
4413	GASTROSCOPY NEC	5822	URETHROSCOPY NEC
4440	SUTURE PEPTIC ULCER NOS	5909	PERIREN/URETER INCIS NEC
4441	SUT GASTRIC ULCER SITE	600	INCISION OF PROSTATE
4442	SUTURE DUODEN ULCER SITE	6081	PERIPROSTATIC INCISION
4443	ENDOSC CONTROL GAST HEM	620	INCISION OF TESTES
4444	TRANSCATH EMBO GAST HEM	631	EXC SPERMATIC VARICOCELE
4449	OTHER CONTROL GAST HEM	636	VASOTOMY
4491	LIGATE GASTRIC VARICES	6372	SPERMATIC CORD LIGATION
4500	INTESTINAL INCISION NOS	6392	EPIDIDYMOTOMY
4501	DUODENAL INCISION	6393	SPERMATIC CORD INCISION
4502	SMALL BOWEL INCISION NEC	6492	INCISION OF PENIS
4503	LARGE BOWEL INCISION	6501	LAPAROSCOPIC OOPHOROTOMY
4511	TRANSAB SM BOWEL ENDOSC	6509	OTHER OOPHOROTOMY
4512	ENDOSC SM BOWEL THRU ST	6601	SALPINGOTOMY
4513	SM BOWEL ENDOSCOPY NEC	680	HYSTEROTOMY
4516	EGD WITH CLOSED BIOPSY	6811	DIGITAL EXAM OF UTERUS
4521	TRANSAB LG BOWEL ENDOSC	6812	HYSTEROSCOPY
4522	ENDOSC LG BOWEL THRU ST	6995	INCISION OF CERVIX
4523	COLONOSCOPY	700	CULDOCENTESIS
4524	FLEXIBLE SIGMOIDOSCOPY	7012	CULDOTOMY
4543	ENDOSC DESTRU LG INT LES	7012	VAGINOSCOPY
4549	DESTRUC LG BOWEL LES NEC	7021	CULDOSCOPY
480	PROCTOTOMY	757	MANUAL EXPLOR UTERUS P/P
4822	PROCTOSIGMOIDOSC THRU ST	7710	OTHER BONE INCISION NOS
4823	RIGID PROCTOSIGMOIDOSCPY		OTHER BONE INCISION NOS
4921	ANOSCOPY	8010	EXPLOR TEND SHEATH-HAND
		8201	
4945	HEMORRHOID LIGATION	8202	MYOTOMY OF HAND
500 5110	HEPATOTOMY	8203	BURSOTOMY OF HAND
5110	ENDOSC RETRO CHOLANGIOPA	8204	I & D PALMAR/THENAR SPAC
5111	ENDOSC RETRO CHOLANGIO	8209	INC SOFT TISSUE HAND NEC
5141	CDE FOR CALCULUS REMOV	8301	TENDON SHEATH EXPLORAT
5142	CDE FOR OBSTRUCTION NEC	8302	MYOTOMY
5149	INCIS OBSTR BILE DUC NEC	8303	BURSOTOMY
5151	COMMON DUCT EXPLORATION	8309	SOFT TISSUE INCISION NEC
5159	BILE DUCT INCISION NEC	850	MASTOTOMY

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8603 8609 9621	INCISION PILONIDAL SINUS SKIN & SUBQ INCISION NEC DILAT FRONTONASAL DUCT	9925 9929	INJECT CA CHEMOTHER NEC INJECT/INFUSE NEC