

QUALITY INDICATORS™ SOFTWARE

Results of Comparison Testing Between

SAS v6.0 ICD-9-CM and WinQI v6.0 ICD-9-CM Software

Prepared for:

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The Agency for Healthcare Research and Quality (AHRQ) Quality Indicators™ (QI) were developed specifically to meet the short-term needs for information on healthcare quality using standardized, user-friendly methods and existing sources of data. The AHRQ QI program is unique in that it provides free, publicly-available software tools that calculate the AHRQ QI rates. The software allows users to calculate QI rates based on their own administrative data using a standard desktop computer. Each version of the QIs is released with software in two different platforms: a SAS®† application and a Windows application. The SAS software was first released in the late 1990s. It consists of several modules of SAS code and requires a SAS license to run. The Windows-based software, known as WinQI, was first released in 2005. It was created in order to provide an easy-to-use, low-cost option for calculating the QIs that was not dependent on licensed software. Developed on Microsoft® Visual Studio using C# and .NET, AHRQ WinQI runs on Windows operating systems and requires only freely available software components: AHRQ-produced software, Microsoft .NET (for runtime environment and core software libraries), and Microsoft SQL Server Express (for data storage and manipulation). Table 1 lists the differences between SAS QI v6.0 ICD-9-CM and WinQI v6.0 ICD-9-CM. Both the SAS and WinQI software are available in Version 6.0 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 and 8 operating systems.

Table 1. Differences between SAS QI v6.0 and WinQI v6.0

SAS QI v6.0	WinQI v6.0
Requires licensed SAS software	Requires free downloadable software
User can modify the software	User is unable to modify the software
Data load and error checking at the discretion of the user	Includes data load and error checking functions
User must run a set of programs for each module, and all indicators in a module are displayed in output	All four QI modules calculated in a single program, and user can select which indicators to output
Area-level indicator denominators are adjusted based on the combination of county, age, gender and race in the numerator (adjustments are generally small (<.01%) in absolute terms)	Area-level indicators denominators are not adjusted
	Suppresses expected rate, risk-adjusted rate, and smoothed rate of PDI #6 RACHS-1 Pediatric Heart Surgery Mortality Rate
Condition-specific denominators can be used in place of overall population denominators for diabetes-related PQIs using data from the CDC National Diabetes Surveillance System	Condition-specific denominators are not available for any of the PQIs
Observations with FIPS codes not present in the population file are excluded from Area level metrics.	Observations with FIPS codes not present in the population file are included in Area level measures with no FIPS assigned.

Both versions of the QI software are updated on an annual basis to reflect changes in the AHRQ QI technical specifications. New software versions and updated technical specifications are released simultaneously. Routine annual updates include yearly International Classification of Diseases, 9th revision, Clinical Modification (ICD-9-CM), Medicare Severity-Diagnostic Related Groups (MS-DRG), Major Diagnostic Categories (MDC), updated version of the 3MTM APR-DRG grouper, new Census population files, and newly derived risk adjustment parameters.

The AHRQ QI software goes through rigorous testing prior to release, including the following:

- Comparison of rates produced through AHRQ QI SAS and AHRQ WinQI, aggregated and detailed provider/county-level
- User testing on the installation.

AHRQ QI v6.0 software included applications that are compatible with 32-bit and 64-bit environments, and thus additional testing comparing rates across these environments was performed. This document summarizes the testing results for AHRQ QI v6.0 ICD-9-CM software for WinQI (released in October 2016) and SAS (released in July 2016). Testing was performed using AHRQ Healthcare Cost and Utilization Project (HCUP) data: 3,571,315 discharges in the Florida 2013 and Maryland and Nevada 2012 HCUP State Inpatient Databases (SID). To ensure comparability of Area rates, the year of all observations was set to 2014 and observations with a FIPS code not in the 2014 population file were removed.

The table in this document compares the calculated rates using AHRQ QI SAS to AHRQ WinQI in a 64-bit environment. There should be zero to little variation in the rates (as evidenced by a SAS/WinQI rate ratio=1), with two exceptions. Small differences may occur due to rounding of the estimates and slight variation in the number of providers in area-level indicators due to area denominator adjustments. The table confirms that the results produced with AHRQ QI SAS are consistent with the results produced with AHRQ WinQI. More detailed tables showing aggregated estimates for SAS and WinQI (Appendix A) and comparisons at the provider or county level (Appendix B) are provided in the appendices.

Known considerations for v6.0 ICD-9-CM software:

- PQI 13 Angina Without Procedure Admission Rate is retired in version 6.0
- For specific indicators (PSI 07 and PSI 08), the small variances in the risk-adjusted rates are known issues and will be corrected in the future releases.

[†] SAS® is a statistical software package distributed by the SAS Institute, Inc. SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc., Cary, NC, USA. The company may be contacted directly regarding the licensing of their products. The SAS Institute, Inc. has no affiliation with AHRQ nor involvement in the development of the AHRQ QI. For more information, visit the SAS Institute website at <http://www.sas.com>.

[‡] HCUP Databases. Healthcare Cost and Utilization Project (HCUP). 2012 and 2013. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/databases.jsp. Additionally, the AHRQ QI Program would like to acknowledge the following HCUP Partners who allowed their SID data to be used for testing purposes in the development of the AHRQ QI software: **Florida** Agency for Health Care Administration, **Maryland** Health Services Cost Review Commission, and **Nevada** Department of Health and Human Services

Table 2. Comparison of Rates from AHRQ QI SAS v6.0 Software to AHRQ WinQI v6.0

QI	Type	Ratio of SAS statistic over WinQI statistic					
		OBS num	OBS den	OBS rate	EXP rate	ADJ rate	Smoothed rate
Prevention Quality Indicators (PQIs)							
PQI #1 Diabetes Short-Term Complications Admission Rate	AREA	1	1	1	1	1	1
PQI #2 Perforated Appendix Admission Rate	AREA	1	1	1	1	1	1
PQI #3 Diabetes Long-Term Complications Admission Rate	AREA	1	1	1	1	1	1
PQI #5 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate	AREA	1	1	1	1	1	1
PQI #7 Hypertension Admission Rate	AREA	1	1	1	1	1	1
PQI #8 Heart Failure Admission Rate	AREA	1	1	1	1	1	1
PQI #9 Low Birth Weight Rate	AREA						
PQ #10 Dehydration Admission Rate	AREA	1	1	1	1	1	1
PQI #11 Bacterial Pneumonia Admission Rate	AREA	1	1	1	1	1	1
PQI #12 Urinary Tract Infection Admission Rate	AREA	1	1	1	1	1	1
PQI #14 Uncontrolled Diabetes Admission Rate	AREA	1	1	1	1	1	1
PQI #15 Asthma in Younger Adults Admission Rate	AREA	1	1	1	1	1	1
PQI #16 Lower-Extremity Amputation among Patients with Diabetes Rate	AREA	1	1	1	1	1	1
PQI #90 Prevention Quality Overall Composite	AREA	1	1	1	1	1	1
PQI #91 Prevention Quality Acute Composite	AREA	1	1	1	1	1	1
PQI #92 Prevention Quality Chronic Composite	AREA	1	1	1	1	1	1
PQI #93 Prevention Quality Diabetes Composite (Numerator)	AREA	1	1	1	1	1	1
Patient Safety Indicators(PSIs)							
PSI #2 Death Rate in Low-Mortality Diagnosis Related Groups (DRGs)	PROVIDER	1	1	1	1	1	1
PSI #3 Pressure Ulcer Rate	PROVIDER	1	1	1	1	1	1
PSI #4 Death Rate among Surgical Inpatients with Serious Treatable Complications	PROVIDER	1	1	1	1	1	1
PSI #4A Stratum A	PROVIDER	1	1	1	1	1	1
PSI #4B Stratum B	PROVIDER	1	1	1	1	1	1

QI	Type	Ratio of SAS statistic over WinQI statistic					
		OBS num	OBS den	OBS rate	EXP rate	ADJ rate	Smoothed rate
PSI #4C Stratum C	PROVIDER	1	1	1	1	1	1
PSI #4D Stratum D	PROVIDER	1	1	1	1	1	1
PSI #4E Stratum E	PROVIDER	1	1	1	1	1	1
PSI #5 Retained Surgical Item or Unretrieved Device Fragment Count	PROVIDER	1					
PSI #6 Iatrogenic Pneumothorax Rate	PROVIDER	1	1	1	1	1	1
PSI #7 Central Venous Catheter-Related Blood Stream Infection Rate	PROVIDER	1	1	1	1.01253	0.98788	0.98786
PSI #8 Postoperative Hip Fracture Rate	PROVIDER	1	1	1	0.99527	1.00376	1.00376
PSI #9 Perioperative Hemorrhage or Hematoma Rate	PROVIDER	1	1	1	1	1	1
PSI #10 Postoperative Physiologic and Metabolic Derangement Rate	PROVIDER	1	1	1	1	1	1
PSI #11 Postoperative Respiratory Failure Rate	PROVIDER	1	1	1	1	1	1
PSI #12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate	PROVIDER	1	1	1	1	1	1
PSI #13 Postoperative Sepsis Rate	PROVIDER	1	1	1	1	1	1
PSI #14 Postoperative Wound Dehiscence Rate	PROVIDER	1	1	1	1	1	1
PSI #15 Accidental Puncture or Laceration Rate	PROVIDER	1	1	1	1	1	1
PSI #16 Transfusion Reaction Count	PROVIDER	1					
PSI #18 Obstetric Trauma Rate – Vaginal Delivery With Instrument	PROVIDER	1	1	1			
PSI #19 Obstetric Trauma Rate – Vaginal Delivery Without Instrument	PROVIDER	1	1	1			
PSI #21 Retained Surgical Item or Unretrieved Device Fragment Rate	AREA	1	1	1			
PSI #22 Iatrogenic Pneumothorax Rate	AREA	1	1	1			
PSI #23 Central Venous Catheter-Related Blood Stream Infection Rate	AREA	1	1	1			
PSI #24 Postoperative Wound Dehiscence Rate	AREA	1	1	1			
PSI #25 Accidental Puncture or Laceration Rate	AREA	1	1	1			
PSI #26 Transfusion Reaction Rate	AREA	1	1	1			
PSI #27 Perioperative Hemorrhage or Hematoma Rate	AREA	1	1	1			

QI	Type	Ratio of SAS statistic over WinQI statistic					
		OBS num	OBS den	OBS rate	EXP rate	ADJ rate	Smoothed rate
Inpatient Quality Indicators (IQIs)							
IQI #1 Esophageal Resection Volume	PROVIDER	1					
IQI #2 Pancreatic Resection Volume	PROVIDER	1					
IQI #2A Stratum A	PROVIDER	1					
IQI #2B Stratum B	PROVIDER	1					
IQI #4 Abdominal Aortic Aneurysm (AAA) Repair Volume	PROVIDER	1					
IQI #4A Stratum A	PROVIDER	1					
IQI #4B Stratum B	PROVIDER	1					
IQI #4C Stratum C	PROVIDER	1					
IQI #4D Stratum D	PROVIDER	1					
IQI #5 Coronary Artery Bypass Graft (CABG) Volume	PROVIDER	1					
IQI #6 Percutaneous Coronary Intervention (PCI) Volume	PROVIDER	1					
IQI #7 Carotid Endarterectomy Volume	PROVIDER	1					
IQI #8 Esophageal Resection Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #9 Pancreatic Resection Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #9A Stratum A	PROVIDER	1	1	1	1	1	
IQI #9B Stratum B	PROVIDER	1	1	1	1	1	
IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #11A Stratum A	PROVIDER	1	1	1	1	1	
IQI #11B Stratum B	PROVIDER	1	1	1	1	1	
IQI #11C Stratum C	PROVIDER	1	1	1	1	1	
IQI #11D Stratum D	PROVIDER	1	1	1	1	1	
IQI #12 Coronary Artery Bypass Graft (CABG) Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #13 Craniotomy Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #14 Hip Replacement Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #15 Acute Myocardial Infarction (AMI) Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #16 Heart Failure Mortality Rate	PROVIDER	1	1	1	1	1	1

QI	Type	Ratio of SAS statistic over WinQI statistic					
		OBS num	OBS den	OBS rate	EXP rate	ADJ rate	Smoothed rate
IQI #17 Acute Stroke Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #17A Stratum A	PROVIDER	1	1	1	1	1	
IQI #17B Stratum B	PROVIDER	1	1	1	1	1	
IQI #17C Stratum C	PROVIDER	1	1	1	1	1	
IQI #18 Gastrointestinal Hemorrhage Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #19 Hip Fracture Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #20 Pneumonia Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #21 Cesarean Delivery Rate, Uncomplicated	PROVIDER	1	1	1			
IQI #22 Vaginal Birth After Cesarean (VBAC) Delivery Rate, Uncomplicated	PROVIDER	1	1	1			
IQI #23 Laparoscopic Cholecystectomy Rate	PROVIDER	1	1	1			
IQI #24 Incidental Appendectomy in the Elderly Rate	PROVIDER	1	1	1			
IQI #25 Bilateral Cardiac Catheterization Rate	PROVIDER	1	1	1			
IQI #26 Coronary Artery Bypass Graft (CABG) Rate	AREA	1	1	1	1	1	1
IQI #27 Percutaneous Coronary Intervention (PCI) Rate	AREA	1	1	1	1	1	1
IQI #28 Hysterectomy Rate	AREA	1	1	1	1	1	1
IQI #29 Laminectomy or Spinal Fusion Rate	AREA	1	1	1	1	1	1
IQI #30 Percutaneous Coronary Intervention (PCI) Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #31 Carotid Endarterectomy Mortality Rate	PROVIDER	1	1	1	1	1	1
IQI #32 Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases	PROVIDER	1	1	1	1	1	1
IQI #33 Primary Cesarean Delivery Rate,Uncomplicated	PROVIDER	1	1	1			
IQI #34 Vaginal Birth After Cesarean (VBAC) Rate,All	PROVIDER	1	1	1			

SOURCE: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project. 2010 Nationwide Inpatient Sample (unweighted) and AHRQ Quality Indicator SAS and WinQI Version 6.0 ICD-9-CM Software.

NOTE: Blank cell = N/A.

Appendix Table A.1 Key to Appendix Table A

Column Heading	Description
OBS num	Number of discharges in the numerator
OBS den	Number of discharges in the denominator
OBS rate	Observed rate
EXP rate	Expected rate
ADJ rate	Risk adjusted rate
Smoothed rate	Smoothed rate

Appendix Table A.2 AHRQ QI SAS Version 6.0 Aggregate Estimates

QI	Type	SAS Version 6.0					
		OBS num	OBS den	OBS rate	EXP rate	ADJ rate	Smoothed rate
Prevention Quality Indicators (PQIs)							
PQI #1 Diabetes Short-Term Complications Admission Rate	AREA	15575	239799857	0.0000649	0.0006829	0.0000656	0.0000656
PQI #2 Perforated Appendix Admission Rate	AREA	5655	18311	0.3088308	0.355265	0.3054352	0.3055112
PQI #3 Diabetes Long-Term Complications Admission Rate	AREA	29110	239799858	0.0001214	0.0010337	0.0001193	0.0001193
PQI #5 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission	AREA	93395	150002200	0.0006226	0.0048902	0.0006123	0.0006124
PQI #7 Hypertension Admission Rate	AREA	18297	239799858	0.0000763	0.0004992	0.0000752	0.0000752
PQI #8 Heart Failure Admission Rate	AREA	86516	239799884	0.0003608	0.003303	0.0003512	0.0003513
PQ #10 Dehydration Admission Rate	AREA	34475	239799870	0.0001438	0.0013313	0.0001405	0.0001405
PQI #11 Bacterial Pneumonia Admission Rate	AREA	60249	239799871	0.0002512	0.0025563	0.0002454	0.0002454
PQI #12 Urinary Tract Infection Admission Rate	AREA	48116	239799872	0.0002007	0.0015843	0.000197	0.000197
PQI #14 Uncontrolled Diabetes Admission Rate	AREA	5164	239799857	0.0000215	0.000133	0.0000213	0.0000213
PQI #15 Asthma in Younger Adults Admission Rate	AREA	4543	89797674	0.0000506	0.0004131	0.0000504	0.0000504

QI	Type	SAS Version 6.0					
		OBS num	OBS den	OBS rate	OBS num	ADJ rate	Smoothed rate
PQI #16 Lower-Extremity Amputation among Patients with Diabetes Rate	AREA	3957	239799857	0.0000165	0.0001759	0.0000161	0.0000161
PQI #90 Prevention Quality Overall Composite	AREA	397678	239800040	0.0016584	0.014434	0.0016222	0.0016222
PQI #91 Prevention Quality Acute Composite	AREA	142840	239799920	0.0005957	0.0054724	0.0005826	0.0005827
PQI #92 Prevention Quality Chronic Composite	AREA	254846	239799922	0.0010627	0.008962	0.0010399	0.00104
PQI#93 Prevention Diabetes Composite	AREA	52112	239799858	0.0002173	0.0019472	0.0002156	0.0002156
Patient Safety Indicators(PSIs)							
PSI #2 Death Rate in Low-Mortality Diagnosis Related Groups (DRGs)	PROVIDER	240	700755	0.0003425	0.0005006	0.0002362	0.0002364
PSI #3 Pressure Ulcer Rate	PROVIDER	489	1507740	0.0003243	0.0002571	0.0003426	0.0003425
PSI #4 Death Rate among Surgical Inpatients with Serious Treatable Complications	PROVIDER	2779	23152	0.1200328	0.1186637	0.1176946	0.1176876
PSI #4A Stratum A	PROVIDER	150	2791	0.0537442	0.0509208	0.0499866	0.0497625
PSI #4B Stratum B	PROVIDER	655	10408	0.0629324	0.0680728	0.0632997	0.0633807
PSI #4C Stratum C	PROVIDER	681	3655	0.1863201	0.1856522	0.1792795	0.1792703
PSI #4D Stratum D	PROVIDER	1136	3060	0.3712418	0.3501949	0.3624877	0.3622639
PSI #4E Stratum E	PROVIDER	157	3238	0.0484867	0.0452515	0.0463798	0.0461817
PSI #5 Retained Surgical Item or Unretrieved Device Fragment Count	PROVIDER	92					
PSI #6 Iatrogenic Pneumothorax Rate	PROVIDER	819	2591093	0.0003161	0.0003097	0.0003226	0.0003226
PSI #7 Central Venous Catheter-Related Blood Stream Infection Rate	PROVIDER	609	2001182	0.0003043	0.0001535	0.0003016	0.000301
PSI #8 Postoperative Hip Fracture Rate	PROVIDER	174	1968397	0.0000884	0.0000841	0.0000801	0.0000801
PSI #9 Perioperative Hemorrhage or Hematoma Rate	PROVIDER	2750	638201	0.004309	0.0043296	0.0043509	0.004351
PSI #10 Postoperative Physiologic and Metabolic Derangement Rate	PROVIDER	259	261100	0.000992	0.0007187	0.0009156	0.0009137
PSI #11 Postoperative Respiratory Failure Rate	PROVIDER	2508	221990	0.0112978	0.0098125	0.0107156	0.0107138
PSI #12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate	PROVIDER	2771	679381	0.0040787	0.0036988	0.0040868	0.0040861
PSI #13 Postoperative Sepsis Rate	PROVIDER	1227	251835	0.0048722	0.0044152	0.0046189	0.0046173

QI	Type	SAS Version 6.0					
		OBS num	OBS den	OBS rate	OBS num	ADJ rate	Smoothed rate
PSI #18 Obstetric Trauma Rate – Vaginal Delivery With Instrument	PROVIDER	1247	11151	0.1118285			
PSI #19 Obstetric Trauma Rate – Vaginal Delivery Without Instrument	PROVIDER	3457	175475	0.0197008			
PSI #21 Retained Surgical Item or Unretrieved Device Fragment Rate	AREA	233	239799857	0.000001			
PSI #22 Iatrogenic Pneumothorax Rate	AREA	1532	239799858	0.0000064			
PSI #23 Central Venous Catheter-Related Blood Stream Infection Rate	AREA	2054	239799858	0.0000086			
PSI #24 Postoperative Wound Dehiscence Rate	AREA	385	239799857	0.0000016			
Inpatient Quality Indicators (IQIs)							
IQI #1 Esophageal Resection Volume	PROVIDER	422					
IQI #2 Pancreatic Resection Volume	PROVIDER	1444					
IQI #2A Stratum A	PROVIDER	768					
IQI #2B Stratum B	PROVIDER	676					
IQI #4 Abdominal Aortic Aneurysm (AAA) Repair Volume	PROVIDER	4128					
IQI #4A Stratum A	PROVIDER	151					
IQI #4B Stratum B	PROVIDER	414					
IQI #4C Stratum C	PROVIDER	174					
IQI #4D Stratum D	PROVIDER	3389					
IQI #5 Coronary Artery Bypass Graft (CABG) Volume	PROVIDER	18257					
IQI #6 Percutaneous Coronary Intervention (PCI) Volume	PROVIDER	49777					
IQI #7 Carotid Endarterectomy Volume	PROVIDER	9774					
IQI #8 Esophageal Resection Mortality Rate	PROVIDER	25	345	0.0724638	0.0534726	0.0584683	0.0579918
IQI #9 Pancreatic Resection Mortality Rate	PROVIDER	46	1440	0.0319444	0.0306345	0.0299108	0.0297478
IQI #9A Stratum A	PROVIDER	30	767	0.0391134	0.0364013	0.0353059	
IQI #9B Stratum B	PROVIDER	16	673	0.0237741	0.0240622	0.0237545	
IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate	PROVIDER	149	4110	0.036253	0.0335518	0.0366867	0.0366611
IQI #11A Stratum A	PROVIDER	53	149	0.3557047	0.3501555	0.3447447	

QI	Type	SAS Version 6.0					
		OBS num	OBS den	OBS rate	OBS num	ADJ rate	Smoothed rate
IQI #11B Stratum B	PROVIDER	27	413	0.0653753	0.0514883	0.0613837	
IQI #11C Stratum C	PROVIDER	41	169	0.2426036	0.2162369	0.2384303	
IQI #11D Stratum D	PROVIDER	28	3379	0.0082865	0.0082617	0.0077377	
IQI #12 Coronary Artery Bypass Graft (CABG) Mortality Rate	PROVIDER	514	17986	0.0285778	0.0277644	0.024939	0.0249328
IQI #13 Craniotomy Mortality Rate	PROVIDER	725	12540	0.057815	0.0586248	0.0563797	0.0563855
IQI #14 Hip Replacement Mortality Rate	PROVIDER	17	26822	0.0006338	0.00071	0.0004627	0.0004649
IQI #15 Acute Myocardial Infarction (AMI) Mortality Rate	PROVIDER	2882	52526	0.0548681	0.0556402	0.0529643	0.0529646
IQI #16 Heart Failure Mortality Rate	PROVIDER	2512	93255	0.0269369	0.0291414	0.0277569	0.0277584
IQI #17 Acute Stroke Mortality Rate	PROVIDER	3926	54700	0.0717733	0.0786223	0.0725041	0.0725065
IQI #17A Stratum A	PROVIDER	427	2153	0.1983279	0.2101585	0.1994947	
IQI #17B Stratum B	PROVIDER	1802	9133	0.1973065	0.215002	0.194988	
IQI #17C Stratum C	PROVIDER	1697	43414	0.0390888	0.0434089	0.0404299	
IQI #18 Gastrointestinal Hemorrhage Mortality Rate	PROVIDER	1004	51944	0.0193285	0.0214328	0.0200871	0.0200913
IQI #19 Hip Fracture Mortality Rate	PROVIDER	541	25502	0.021214	0.022414	0.0222656	0.0222812
IQI #20 Pneumonia Mortality Rate	PROVIDER	2292	77110	0.0297238	0.0323137	0.0313613	0.0313642
IQI #21 Cesarean Delivery Rate, Uncomplicated	PROVIDER	91953	265340	0.3465478			
IQI #22 Vaginal Birth After Cesarean (VBAC) Delivery Rate,	PROVIDER	3315	49610	0.0668212			
IQI #23 Laparoscopic Cholecystectomy Rate	PROVIDER	29983	33777	0.887675			
IQI #24 Incidental Appendectomy in the Elderly Rate	PROVIDER	395	42079	0.0093871			
IQI #25 Bilateral Cardiac Catheterization Rate	PROVIDER	1321	99738	0.0132447			
IQI #26 Coronary Artery Bypass Graft (CABG) Rate	AREA	18134	150002191	0.0001209	0.0010357	0.0001404	0.0001404
IQI #27 Percutaneous Coronary Intervention (PCI) Rate	AREA	48986	150002206	0.0003266	0.0025768	0.0003812	0.0003812
IQI #28 Hysterectomy Rate	AREA	20019	123243107	0.0001624	0.0013467	0.0001945	0.0001945
IQI #29 Laminectomy or Spinal Fusion Rate	AREA	58961	239799867	0.0002459	0.0020059	0.0002864	0.0002864
IQI #30 Percutaneous Coronary Intervention (PCI) Mortality Rate	PROVIDER	1142	48482	0.0235551	0.0224277	0.024234	0.0242207

IQI #31 Carotid Endarterectomy Mortality Rate	PROVIDER	43	9746	0.0044121	0.0043234	0.0044015	0.0043777
IQI #32 Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases	PROVIDER	2634	46968	0.0560807	0.0565674	0.0549514	0.0549516
IQI #33 Primary Cesarean Delivery Rate, Uncomplicated	PROVIDER	45658	215730	0.2116442			
IQI #34 Vaginal Birth After Cesarean (VBAC) Rate, All	PROVIDER	3792	56043	0.0676623			

SOURCE: Agency for Healthcare Research and Quality, AHRQ Healthcare Cost and Utilization Project (HCUP) data: 3,571,315 discharges in the Florida 2013 and Maryland and Nevada 2012 HCUP State Inpatient Databases (SID) (unweighted) and AHRQ Quality Indicator SAS and WinQI Version 6.0 ICD-9-CM Software.

NOTE: Rates are reported as output from the software and not multiplied by any factor; Blank cell = N/A.

Appendix A.3 AHRQ WinQI Version 6.0 Aggregate Estimates

QI	Type	WinQI Version 6.0					
		OBS num	OBS den	OBS rate	EXP rate	ADJ rate	Smoothed rate
Prevention Quality Indicators (PQIs)							
PQI #1 Diabetes Short-Term Complications Admission Rate	AREA	15575	239799857	0.0000649	0.0006829	0.0000656	0.0000656
PQI #2 Perforated Appendix Admission Rate	AREA	5655	18311	0.3088308	0.355265	0.3054352	0.3055112
PQI #3 Diabetes Long-Term Complications Admission Rate	AREA	29110	239799858	0.0001214	0.0010337	0.0001193	0.0001193
PQI #5 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate	AREA	93395	150002194	0.0006226	0.0048902	0.0006123	0.0006124
PQI #7 Hypertension Admission Rate	AREA	18297	239799858	0.0000763	0.0004992	0.0000752	0.0000752
PQI #8 Heart Failure Admission Rate	AREA	86516	239799874	0.0003608	0.003303	0.0003512	0.0003513
PQI #10 Dehydration Admission Rate	AREA	34475	239799867	0.0001438	0.0013313	0.0001405	0.0001405
PQI #11 Bacterial Pneumonia Admission Rate	AREA	60249	239799865	0.0002512	0.0025563	0.0002454	0.0002454
PQI #12 Urinary Tract Infection Admission Rate	AREA	48116	239799866	0.0002007	0.0015843	0.000197	0.000197
PQI #14 Uncontrolled Diabetes Admission Rate	AREA	5164	239799857	0.0000215	0.000133	0.0000213	0.0000213
PQI #15 Asthma in Younger Adults Admission Rate	AREA	4543	89797674	0.0000506	0.0004131	0.0000504	0.0000504
PQI #16 Lower-Extremity Amputation among Patients with Diabetes Rate	AREA	3957	239799857	0.0000165	0.0001759	0.0000161	0.0000161
PQI #90 Prevention Quality Overall Composite	AREA	397678	239799987	0.0016584	0.014434	0.0016222	0.0016222
PQI #91 Prevention Quality Acute Composite	AREA	142840	239799903	0.0005957	0.0054724	0.0005826	0.0005827
PQI #92 Prevention Quality Chronic Composite	AREA	254846	239799902	0.0010627	0.008962	0.0010399	0.00104
PQI #93 Prevention Quality Diabetes Composite	AREA	52112	239799858	0.0002173	0.0019472	0.0002156	0.0002156
Patient Safety Indicators (PSIs)							
PSI #2 Death Rate in Low-Mortality Diagnosis Related Groups (DRGs)	PROVIDER	240	700755	0.0003425	0.0005006	0.0002362	0.0002364
PSI #3 Pressure Ulcer Rate	PROVIDER	489	1507739	0.0003243	0.0002571	0.0003426	0.0003425
PSI #4 Death Rate among Surgical Inpatients with Serious Treatable Complications	PROVIDER	2779	23152	0.1200328	0.1186637	0.1176946	0.1176876
PSI #4A Stratum A	PROVIDER	150	2791	0.0537442	0.0509208	0.0499866	0.0497625
PSI #4B Stratum B	PROVIDER	655	10408	0.0629324	0.0680728	0.0632997	0.0633807
PSI #4C Stratum C	PROVIDER	681	3655	0.1863201	0.1856522	0.1792795	0.1792703
PSI #4D Stratum D	PROVIDER	1136	3060	0.3712418	0.3501949	0.3624877	0.3622639

QI	Type	WinQI Version 6.0					
		OBS num	OBS den	OBS num	EXP rate	OBS num	Smoothed rate
PSI #4E Stratum E	PROVIDER	157	3238	0.0484867	0.0452515	0.0463798	0.0461817
PSI #5 Retained Surgical Item or Unretrieved Device Fragment Count	PROVIDER	92					
PSI #6 Iatrogenic Pneumothorax Rate	PROVIDER	819	2591093	0.0003161	0.0003097	0.0003226	0.0003226
PSI #7 Central Venous Catheter-Related Blood Stream Infection Rate	PROVIDER	609	2001182	0.0003043	0.0001516	0.0003053	0.0003047
PSI #8 Postoperative Hip Fracture Rate	PROVIDER	174	1968397	0.0000884	0.0000845	0.0000798	0.0000798
PSI #9 Perioperative Hemorrhage or Hematoma Rate	PROVIDER	2750	638201	0.004309	0.0043296	0.0043509	0.004351
PSI #10 Postoperative Physiologic and Metabolic Derangement Rate	PROVIDER	259	261100	0.000992	0.0007187	0.0009156	0.0009137
PSI #11 Postoperative Respiratory Failure Rate	PROVIDER	2508	221990	0.0112978	0.0098125	0.0107156	0.0107138
PSI #12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate	PROVIDER	2771	679381	0.0040787	0.0036988	0.0040868	0.0040861
PSI #13 Postoperative Sepsis Rate	PROVIDER	1227	251835	0.0048722	0.0044152	0.0046189	0.0046173
PSI #14 Postoperative Wound Dehiscence Rate	PROVIDER	199	97439	0.0020423	0.0017999	0.0019375	0.0019341
PSI #15 Accidental Puncture or Laceration Rate	PROVIDER	90	119571	0.0007527	0.0007356	0.0007303	0.0007301
PSI #16 Transfusion Reaction Count	PROVIDER	8					
PSI #18 Obstetric Trauma Rate – Vaginal Delivery With Instrument	PROVIDER	1247	11151	0.1118285			
PSI #19 Obstetric Trauma Rate – Vaginal Delivery Without Instrument	PROVIDER	3457	175475	0.0197008			
PSI #21 Retained Surgical Item or Unretrieved Device Fragment Rate	AREA	233	239799857	0.000001			
PSI #22 Iatrogenic Pneumothorax Rate	AREA	1532	239799857	0.0000064			
PSI #23 Central Venous Catheter-Related Blood Stream Infection Rate	AREA	2054	239799857	0.0000086			
PSI #24 Postoperative Wound Dehiscence Rate	AREA	385	239799857	0.0000016			
PSI #25 Accidental Puncture or Laceration Rate	AREA	96	239799857	0.0000004			
PSI #26 Transfusion Reaction Rate	AREA	20	239799857	0.0000001			
PSI #27 Perioperative Hemorrhage or Hematoma Rate	AREA	6831	239799857	0.0000285			

QI	Type	WinQI Version 6.0					
		OBS num	OBS den	OBS rate	EXP rate	ADJ rate	Smoothed rate
Inpatient Quality Indicators (IQIs)							
IQI #1 Esophageal Resection Volume	PROVIDER	422					
IQI #2 Pancreatic Resection Volume	PROVIDER	1444					
IQI #2A Stratum A	PROVIDER	768					
IQI #2B Stratum B	PROVIDER	676					
IQI #4 Abdominal Aortic Aneurysm (AAA) Repair Volume	PROVIDER	4128					
IQI #4A Stratum A	PROVIDER	151					
IQI #4B Stratum B	PROVIDER	414					
IQI #4C Stratum C	PROVIDER	174					
IQI #4D Stratum D	PROVIDER	3389					
IQI #5 Coronary Artery Bypass Graft (CABG) Volume	PROVIDER	18257					
IQI #6 Percutaneous Coronary Intervention (PCI) Volume	PROVIDER	49777					
IQI #7 Carotid Endarterectomy Volume	PROVIDER	9774					
IQI #8 Esophageal Resection Mortality Rate	PROVIDER	25	345	0.0724638	0.0534726	0.0584683	0.0579918
IQI #9 Pancreatic Resection Mortality Rate	PROVIDER	46	1440	0.0319444	0.0306345	0.0299108	0.0297478
IQI #9A Stratum A	PROVIDER	30	767	0.0391134	0.0364013	0.0353059	0
IQI #9B Stratum B	PROVIDER	16	673	0.0237741	0.0240622	0.0237545	0
IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate	PROVIDER	149	4110	0.036253	0.0335518	0.0366867	0.0366611

QI	Type	WinQI Version 6.0					
		OBS num	OBS den	OBS rate	EXP rate	ADJ rate	Smoothed rate
IQI #11A Stratum A	PROVIDER	53	149	0.3557047	0.3501555	0.3447447	0
IQI #11B Stratum B	PROVIDER	27	413	0.0653753	0.0514883	0.0613837	0
IQI #11C Stratum C	PROVIDER	41	169	0.2426036	0.2162369	0.2384303	0
IQI #11D Stratum D	PROVIDER	28	3379	0.0082865	0.0082617	0.0077377	0
IQI #12 Coronary Artery Bypass Graft (CABG) Mortality Rate	PROVIDER	514	17986	0.0285778	0.0277644	0.024939	0.0249328
IQI #13 Craniotomy Mortality Rate	PROVIDER	725	12540	0.057815	0.0586248	0.0563797	0.0563855
IQI #14 Hip Replacement Mortality Rate	PROVIDER	17	26822	0.0006338	0.00071	0.0004627	0.0004649
IQI #15 Acute Myocardial Infarction (AMI) Mortality Rate	PROVIDER	2882	52526	0.0548681	0.0556402	0.0529643	0.0529646
IQI #16 Heart Failure Mortality Rate	PROVIDER	2512	93255	0.0269369	0.0291414	0.0277569	0.0277584
IQI #17 Acute Stroke Mortality Rate	PROVIDER	3926	54700	0.0717733	0.0786223	0.0725041	0.0725065
IQI #17A Stratum A	PROVIDER	427	2153	0.1983279	0.2101585	0.1994947	0
IQI #17B Stratum B	PROVIDER	1802	9133	0.1973065	0.215002	0.194988	0
IQI #17C Stratum C	PROVIDER	1697	43414	0.0390888	0.0434089	0.0404299	0
IQI #18 Gastrointestinal Hemorrhage Mortality Rate	PROVIDER	1004	51944	0.0193285	0.0214328	0.0200871	0.0200913
IQI #19 Hip Fracture Mortality Rate	PROVIDER	541	25502	0.021214	0.022414	0.0222656	0.0222812
IQI #20 Pneumonia Mortality Rate	PROVIDER	2292	77110	0.0297238	0.0323137	0.0313613	0.0313642
IQI #21 Cesarean Delivery Rate, Uncomplicated	PROVIDER	91953	265340	0.3465478			
IQI #22 Vaginal Birth After Cesarean (VBAC) Delivery Rate, Uncomplicated	PROVIDER	3315	49610	0.0668212			

QI	Type	WinQI Version 6.0					
		OBS num	OBS den	OBS rate	EXP rate	ADJ rate	Smoothed rate
IQI #23 Laparoscopic Cholecystectomy Rate	PROVIDER	29983	33777	0.887675			
IQI #24 Incidental Appendectomy in the Elderly Rate	PROVIDER	395	42079	0.0093871			
IQI #25 Bilateral Cardiac Catheterization Rate	PROVIDER	1321	99738	0.0132447			
IQI #26 Coronary Artery Bypass Graft (CABG) Rate	AREA	18134	150002188	0.0001209	0.0010357	0.0001404	0.0001404
IQI #27 Percutaneous Coronary Intervention (PCI) Rate	AREA	48986	150002190	0.0003266	0.0025768	0.0003812	0.0003812
IQI #28 Hysterectomy Rate	AREA	20019	123243107	0.0001624	0.0013467	0.0001945	0.0001945
IQI #29 Laminectomy or Spinal Fusion Rate	AREA	58961	239799862	0.0002459	0.0020059	0.0002864	0.0002864
IQI #30 Percutaneous Coronary Intervention (PCI) Mortality Rate	PROVIDER	1142	48482	0.0235551	0.0224277	0.024234	0.0242207
IQI #31 Carotid Endarterectomy Mortality Rate	PROVIDER	43	9746	0.0044121	0.0043234	0.0044015	0.0043777
IQI #32 Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases	PROVIDER	2634	46968	0.0560807	0.0565674	0.0549514	0.0549516
IQI #33 Primary Cesarean Delivery Rate, Uncomplicated	PROVIDER	45658	215730	0.2116442			
IQI #34 Vaginal Birth After Cesarean (VBAC) Rate, All	PROVIDER	3792	56043	0.0676623			

SOURCE: Agency for Healthcare Research and Quality, AHRQ Healthcare Cost and Utilization Project (HCUP) data: 3,571,315 discharges in the Florida 2013 and Maryland and Nevada 2012 HCUP State Inpatient Databases (SID) (unweighted) and AHRQ Quality Indicator SAS and WinQI Version 6.0 ICD-9-CM Software.

NOTE: Rates are reported as output from the software and not multiplied by any factor; Blank cell = N/A.

Appendix Table B.1 Key to Appendix Table B

Column Heading	D
QI	Quality Indicator
TYPE	Provider-level or Area-level indicator
N_SAS	Number of providers (or counties) for which the QI calculation was reported by SAS
N_WINQI	Number of providers (or counties) for which the QI calculation was reported by WinQI
N_NUM	Number of providers (or counties) with a numerator difference between SAS and WinQI
MAX DIFF NUM	Maximum difference in the numerator for any one provider (or county) as calculated by SAS and WinQI
N_DEN	Number of providers (or counties) with a denominator difference between SAS and WinQI
MAX DIFF DEN	Maximum difference in the denominator for any one provider (or county) as calculated by SAS and WinQI
N_OBS	Number of providers (or counties) with a difference between SAS and WinQI in the observed rates
MAX DIFF OBS	Maximum difference in the observed rate for any one provider (or county) as calculated by SAS and WinQI
MAX %DIFF OBS	Maximum difference (expressed as a percentage of the SAS estimate) in the observed rate for any one provider (or county) as calculated by SAS and WinQI
N_EXP	Number of providers (or counties) with a difference between SAS and WinQI in the expected rates
MAX DIFF EXP	Maximum difference in the expected rate for any one provider (or county) as calculated by SAS and WinQI
MAX %DIFF EXP	Maximum difference (expressed as a percentage of the SAS estimate) in the expected rate for any one provider (or county) as calculated by SAS and WinQI
N_RAR	Number of providers (or counties) with a difference between SAS and WinQI in the risk-adjusted rate
MAX DIFF RAR	Maximum difference in the risk-adjusted rate for any one provider (or county) as calculated by SAS and WinQI
MAX %DIFF RAR	Maximum difference (expressed as a percentage of the SAS estimate) in the risk-adjusted rate for any one provider (or county) as calculated by SAS and WinQI
N_SR	Number of providers (or counties) with a difference between SAS and WinQI in the smoothed rates
MAX DIFF SR	Maximum difference in the smoothed rate for any one provider (or county) as calculated by SAS and WinQI
MAX %DIFF SR	Maximum difference (expressed as a percentage of the SAS estimate) in the smoothed rate for any one provider (or county) as calculated by SAS and WinQI

Appendix Table B2. Comparison of SAS Version 6.0 to WinQI Version 6.0, Detailed Provider/County Level

QI	Type	Number of Providers or Counties		Difference between SAS and WinQI															
				Numerator		Denominator		Observed Rate (Ratio)			Expected Rate (Variance)			Risk Adjusted Rate (Standard Error)			Smoothed Rate (Weight)		
		N_SAS	N_WinQI	N_NUM	MAX DIFF NUM	N_DEN	MAX DIFF DEN	N_OBS	MAX DIFF OBS	MAX % DIFF OBS	N_EXP	MAX DIFF EXP	MAX % DIFF EXP	N_RAR	MAX DIFF RAR	MAX % DIFF RAR	N_SR	MAX DIFF SR	MAX % DIFF SR
Prevention Quality Indicators (PQIs)																			
PQI #1 Diabetes Short-Term Complications Admission Rate	AREA	2582	2582	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PQI #2 Perforated Appendix Admission Rate	AREA	502	502	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PQI #3 Diabetes Long-Term Complications Admission Rate	AREA	2582	2582	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PQI #5 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate	AREA	2582	2582	0	0	5	2	5	0.000004	0.04	5	0.000001	0.02	5	0.000002	0.03	6	0.000002	0.03
PQI #7 Hypertension Admission Rate	AREA	2582	2582	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.01
PQI #8 Heart Failure Admission Rate	AREA	2582	2582	0	0	4	4	4	0	0.00	3	0.000001	0.02	4	0.000001	0.03	9	0.000001	0.02
PQI #10 Dehydration Admission Rate	AREA	2582	2582	0	0	3	1	2	0	0.01	3	0	0.01	2	0.000001	0.02	4	0.000001	0.02
PQI #11 Bacterial Pneumonia Admission Rate	AREA	2582	2582	0	0	5	2	3	0.000004	0.04	5	0.000005	0.18	4	0.000023	0.22	4	0.000020	0.21
PQI #12 Urinary Tract Infection Admission Rate	AREA	2582	2582	0	0	4	3	2	0.000001	0.02	3	0.000002	0.17	4	0.000002	0.04	5	0.000002	0.04

QI	Type	Number of Providers or Counties		Difference between SAS and WinQI															
				Numerator		Denominator		Observed Rate (Ratio)			Expected Rate (Variance)			Risk Adjusted Rate (Standard Error)			Smoothed Rate (Weight)		
		N_SAS	N_WinQI	N_NUM	MAX DIFF NUM	N_DEN	MAX DIFF DEN	N_OBS	MAX DIFF OBS	MAX % DIFF OBS	N_EXP	MAX DIFF EXP	MAX % DIFF EXP	N_RAR	MAX DIFF RAR	MAX % DIFF RAR	N_SR	MAX DIFF SR	MAX % DIFF SR
PQI #14 Uncontrolled Diabetes Admission Rate	AREA	2582	2582	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PQI #15 Asthma in Younger Adults Admission Rate	AREA	2582	2582	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PQI #16 Lower-Extremity Amputation among Patients with Diabetes	AREA	2582	2582	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PQI #90 Prevention Quality Overall Composite	AREA	2582	2582	0	0	19	8	14	0.000030	0.10	19	0.000039	0.28	18	0.000118	0.38	28	0.000111	0.36
PQI #91 Prevention Quality Acute Composite	AREA	2582	2582	0	0	10	5	6	0.000013	0.08	10	0.000019	0.34	8	0.000072	0.42	11	0.000064	0.39
PQI #92 Prevention Quality Chronic Composite	AREA	2582	2582	0	0	10	5	9	0.000003	0.02	10	0.000002	0.03	10	0.000004	0.03	19	0.000004	0.03
Patient Safety Indicators(PSIs)																			
PSI #2 Death Rate in Low-Mortality Diagnosis Related Groups (DRGs)	PROVIDER	376	376	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PSI #3 Pressure Ulcer Rate	PROVIDER	383	383	0	0	1	1	0	0	0	1	0	0.04	0	0	0	0	0	
PSI #4 Death Rate among Surgical Inpatients with Serious Treatable Complications	PROVIDER	305	305	0	0	0	0	0	0	0	0	0	0	1	1.259703	55.75	0	0	
PSI #4A Stratum A	PROVIDER	260	260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

QI	Type	Number of Providers or Counties		Difference between SAS and WinQI															
				Numerator		Denominator		Observed Rate (Ratio)			Expected Rate (Variance)			Risk Adjusted Rate (Standard Error)			Smoothed Rate (Weight)		
		N_SAS	N_WinQI	N_NUM	MAX DIFF NUM	N_DEN	MAX DIFF DEN	N_OBS	MAX DIFF OBS	MAX % DIFF OBS	N_EXP	MAX DIFF EXP	MAX % DIFF EXP	N_RAR	MAX DIFF RAR	MAX % DIFF RAR	N_SR	MAX DIFF SR	MAX % DIFF SR
PSI #4B Stratum B	PROVIDER	294	294	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PSI #4C Stratum C	PROVIDER	273	273	0	0	0	0	0	0	0	0	0	0	1	0	0.00	0	0	
PSI #4D Stratum D	PROVIDER	256	256	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PSI #4E Stratum E	PROVIDER	260	260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PSI #5 Retained Surgical Item or Unretrieved Device Fragment Count	PROVIDER	62	62	0	0														
PSI #6 Iatrogenic Pneumothorax Rate	PROVIDER	395	395	0	0	0	0	1	0	0.06	0	0	0	0	0	0	0	0	
PSI #7 Central Venous Catheter-Related Blood Stream Infection Rate	PROVIDER	394	394	0	0	0	0	0	0	0	304	0.000024	1.08	179	0.000530	2.33	289	0.000005	0.57
PSI #8 Postoperative Hip Fracture Rate	PROVIDER	394	394	0	0	0	0	0	0	306	0.000002	0.60	113	0.000046	0.63	238	0.000002	0.45	
PSI #9 Perioperative Hemorrhage or Hematoma Rate	PROVIDER	331	331	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PSI #10 Postoperative Physiologic and	PROVIDER	273	273	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PSI #11 Postoperative Respiratory Failure Rate	PROVIDER	269	269	0	0	0	0	0	0	0	0	0	0	1	0	0.00	0	0	

QI	Type	Number of Providers or Counties		Difference between SAS and WinQI														
				Numerator		Denominator		Observed Rate (Ratio)			Expected Rate (Variance)			Risk Adjusted Rate (Standard Error)			Smoothed Rate (Weight)	
		N_SAS	N_WinQI	N_NUM	MAX DIFF NUM	N_DEN	MAX DIFF DEN	N_OBS	MAX DIFF OBS	MAX % DIFF OBS	N_EXP	MAX DIFF EXP	MAX % DIFF EXP	N_RAR	MAX DIFF RAR	MAX % DIFF RAR	N_SR	MAX DIFF SR
PSI #12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate	PROVIDER	331	331	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PSI #13 Postoperative Sepsis Rate	PROVIDER	271	271	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PSI #14 Postoperative Wound Dehiscence Rate	PROVIDER	291	291	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.00
PSI #15 Accidental Puncture or Laceration Rate	PROVIDER	301	301	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.01
PSI #16 Transfusion Reaction Count	PROVIDER	4	4	0	0													
PSI #18 Obstetric Trauma Rate – Vaginal Delivery With Instrument	PROVIDER	167	167	0	0	0	0	0	0	0								
PSI #19 Obstetric Trauma Rate – Vaginal Delivery Without Instrument	PROVIDER	175	175	0	0	0	0	0	0	0								
PSI #21 Retained Surgical Item or Unretrieved Device Fragment Rate	PROVIDER	2582	2582	0	0	0	0	0	0	0								
PSI #22 Iatrogenic Pneumothorax Rate	PROVIDER	2582	2582	0	0	1	1	0	0	0								
PSI #23 Central Venous Catheter-Related Blood Stream Infection Rate	PROVIDER	2582	2582	0	0	1	1	0	0	0								

QI	Type	Number of Providers or Counties		Difference between SAS and WinQI														
				Numerator		Denominator		Observed Rate (Ratio)			Expected Rate (Variance)			Risk Adjusted Rate (Standard Error)			Smoothed Rate (Weight)	
		N_SAS	N_WinQI	N_NUM	MAX DIFF NUM	N_DEN	MAX DIFF DEN	N_OBS	MAX DIFF OBS	MAX % DIFF OBS	N_EXP	MAX DIFF EXP	MAX % DIFF EXP	N_RAR	MAX DIFF RAR	MAX % DIFF RAR	N_SR	MAX DIFF SR
PSI #24 Postoperative Wound Dehiscence Rate	PROVIDER	2582	2582	0	0	0	0	0	0	0								
PSI #25 Accidental Puncture or Laceration Rate	PROVIDER	2582	2582	0	0	0	0	0	0	0								
PSI #26 Transfusion Reaction Rate	PROVIDER	2582	2582	0	0	0	0	0	0	0								
PSI #27 Perioperative Hemorrhage or Hematoma Rate	PROVIDER	2582	2582	0	0	0	0	0	0	0								
Inpatient Quality Indicators (IQIs)																		
IQI #1 Esophageal Resection Volume	PROVIDER	76	76	0	0													
IQI #2 Pancreatic Resection Volume	PROVIDER	130	130	0	0													
IQI #2A Stratum A	PROVIDER	84	84	0	0													
IQI #2B Stratum B	PROVIDER	112	112	0	0													
IQI #4 Abdominal Aortic Aneurysm (AAA) Repair Volume	PROVIDER	181	181	0	0													
IQI #4A Stratum A	PROVIDER	74	74	0	0													
IQI #4B Stratum B	PROVIDER	100	100	0	0													
IQI #4C Stratum C	PROVIDER	83	83	0	0													
IQI #4D Stratum D	PROVIDER	172	172	0	0													

QI	Type	Number of Providers or Counties		Difference between SAS and WinQI														
				Numerator		Denominator		Observed Rate (Ratio)			Expected Rate (Variance)			Risk Adjusted Rate (Standard Error)			Smoothed Rate (Weight)	
		N_SAS	N_WinQI	N_NUM	MAX DIFF NUM	N_DEN	MAX DIFF DEN	N_OBS	MAX DIFF OBS	MAX % DIFF OBS	N_EXP	MAX DIFF EXP	MAX % DIFF EXP	N_RAR	MAX DIFF RAR	MAX % DIFF RAR	N_SR	MAX DIFF SR
IQI #5 Coronary Artery Bypass Graft (CABG) Volume	PROVIDER	102	102	0	0													
IQI #6 Percutaneous Coronary Intervention (PCI) Volume	PROVIDER	177	177	0	0													
IQI #7 Carotid Endarterectomy Volume	PROVIDER	209	209	0	0													
IQI #8 Esophageal Resection Mortality Rate	PROVIDER	71	71	0	0	0	0	0	0	0	0	0	0	1	0.201756	16.79	0	0
IQI #9 Pancreatic Resection Mortality Rate	PROVIDER	130	130	0	0	0	0	0	0	0	0	0	0	1	0.498074	33.25	0	0
IQI #9A Stratum A	PROVIDER	84	84	0	0	0	0	0	0	0	0	0	0	0	0	0		
IQI #9B Stratum B	PROVIDER	112	112	0	0	0	0	0	0	0	0	0	0	1	0.255646	20.36		
IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate	PROVIDER	180	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IQI #11A Stratum A	PROVIDER	73	73	0	0	0	0	0	0	0	0	0	0	1	0.076310	7.09		
IQI #11B Stratum B	PROVIDER	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0		

QI	Type	Number of Providers or Counties		Difference between SAS and WinQI														
				Numerator		Denominator		Observed Rate (Ratio)			Expected Rate (Variance)			Risk Adjusted Rate (Standard Error)			Smoothed Rate (Weight)	
		N_SAS	N_WinQI	N_NUM	MAX DIFF NUM	N_DEN	MAX DIFF DEN	N_OBS	MAX DIFF OBS	MAX % DIFF OBS	N_EXP	MAX DIFF EXP	MAX % DIFF EXP	N_RAR	MAX DIFF RAR	MAX % DIFF RAR	N_SR	MAX DIFF SR
IQI #11C Stratum C	PROVIDER	83	83	0	0	0	0	0	0	0	0	0	0	0	0	0		
IQI #11D Stratum D	PROVIDER	172	172	0	0	0	0	0	0	0	0	0	0	0	0	0		
IQI #12 Coronary Artery Bypass Graft (CABG) Mortality Rate	PROVIDER	102	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IQI #13 Craniotomy Mortality Rate	PROVIDER	155	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IQI #14 Hip Replacement Mortality Rate	PROVIDER	251	251	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IQI #15 Acute Myocardial Infarction (AMI) Mortality Rate	PROVIDER	289	289	0	0	0	0	1	0	0.00	0	0	0	0	0	0	0	0
IQI #16 Heart Failure Mortality Rate	PROVIDER	321	321	0	0	0	0	0	0	0	0	0	0	1	0.112709	10.13	0	0
IQI #17 Acute Stroke Mortality Rate	PROVIDER	289	289	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IQI #17A Stratum A	PROVIDER	166	166	0	0	0	0	0	0	0	0	0	0	0	0	0		
IQI #17B Stratum B	PROVIDER	245	245	0	0	0	0	0	0	0	0	0	0	2	0.306948	23.49		

QI	Type	Number of Providers or Counties		Difference between SAS and WinQI															
				Numerator		Denominator		Observed Rate (Ratio)			Expected Rate (Variance)			Risk Adjusted Rate (Standard Error)			Smoothed Rate (Weight)		
		N_SAS	N_WinQI	N_NUM	MAX DIFF NUM	N_DEN	MAX DIFF DEN	N_OBS	MAX DIFF OBS	MAX % DIFF OBS	N_EXP	MAX DIFF EXP	MAX % DIFF EXP	N_RAR	MAX DIFF RAR	MAX % DIFF RAR	N_SR	MAX DIFF SR	MAX % DIFF SR
IQI #17C Stratum C	PROVIDER	287	287	0	0	0	0	0	0	0	0	0	0	0	0	0			
IQI #18 Gastrointestinal Hemorrhage Mortality Rate	PROVIDER	302	302	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
IQI #19 Hip Fracture Mortality Rate	PROVIDER	261	261	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
IQI #20 Pneumonia Mortality Rate	PROVIDER	329	329	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
IQI #21 Cesarean Delivery Rate, Uncomplicated	PROVIDER	176	176	0	0	0	0	0	0	0									
IQI #22 Vaginal Birth After Cesarean (VBAC) Delivery Rate, Uncomplicated	PROVIDER	169	169	0	0	0	0	0	0	0									
IQI #23 Laparoscopic Cholecystectomy Rate	PROVIDER	274	274	0	0	0	0	0	0	0									
IQI #24 Incidental Appendectomy in the Elderly Rate	PROVIDER	290	290	0	0	0	0	0	0	0									
IQI #25 Bilateral Cardiac Catheterization Rate	PROVIDER	224	224	0	0	0	0	0	0	0									
IQI #26 Coronary Artery Bypass Graft (CABG) Rate	AREA	2582	2582	0	0	3	1	3	0	0.05	3	0.000001	0.08	2	0.000001	0.12	5	0	0.05

QI	Type	Number of Providers or Counties		Difference between SAS and WinQI															
				Numerator		Denominator		Observed Rate (Ratio)			Expected Rate (Variance)			Risk Adjusted Rate (Standard Error)			Smoothed Rate (Weight)		
		N_SAS	N_WinQI	N_NUM	MAX DIFF NUM	N_DEN	MAX DIFF DEN	N_OBS	MAX DIFF OBS	MAX % DIFF OBS	N_EXP	MAX DIFF EXP	MAX % DIFF EXP	N_RAR	MAX DIFF RAR	MAX % DIFF RAR	N_SR	MAX DIFF SR	MAX % DIFF SR
IQI #27 Percutaneous Coronary Intervention (PCI) Rate	AREA	2582	2582	0	0	10	5	9	0.000005	0.07	9	0.000001	0.05	9	0.000007	0.09	13	0.000005	0.07
IQI #28 Hysterectomy Rate	AREA	2582	2582	0	0	0	0	1	0	0.07	2	0	0.01	0	0	0	1	0	0.14
IQI #29 Laminectomy or Spinal Fusion Rate	AREA	2582	2582	0	0	5	1	3	0.000001	0.02	4	0	0.02	3	0.000002	0.04	7	0.000001	0.01
IQI #30 Percutaneous Coronary Intervention (PCI) Mortality Rate	PROVIDER	174	174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IQI #31 Carotid Endarterectomy Mortality Rate	PROVIDER	209	209	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IQI #32 Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases	PROVIDER	280	280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IQI #33 Primary Cesarean Delivery Rate, Uncomplicated	PROVIDER	176	176	0	0	0	0	0	0	0									
IQI #34 Vaginal Birth After Cesarean (VBAC) Rate, All	PROVIDER	170	170	0	0	0	0	0	0	0									

SOURCE: Agency for Healthcare Research and Quality, AHRQ Healthcare Cost and Utilization Project (HCUP) data: 3,571,315 discharges in the Florida 2013 and Maryland and Nevada 2012 HCUP State Inpatient Databases (SID) (unweighted) and AHRQ Quality Indicator SAS and WinQI ICD-9-CM Version 6.0 Software.

NOTE: Only observed and adjusted ratios are reported for area-level indicators and composites; Smoothed rates are not calculated for stratified indicators

Appendix Table B.3 AHRQ SAS software Version 6.0, Detailed Provider/County Level

QI	Type	SAS Version 6.0						
		Nbr of Provider or Counties	Range Num	Range Den	Range ObsRate (Ratio)	Range ExpRate (Variance)	Range RiskAdjRate (Standard Error)	Range SmoothRate (Weight)
Prevention Quality Indicators (PQIs)								
PQI #1 Diabetes Short-Term Complications Admission Rate	AREA	2582	0-1095	1042-7496371	0-0.0015	0.0005-0.001	0-0.0015	0-0.0014
PQI #2 Perforated Appendix Admission Rate	AREA	502	0-473	1-2018	0-1	0.2014-0.5459	0-1	0.2091-0.4772
PQI #3 Diabetes Long-Term Complications Admission Rate	AREA	2582	0-3074	1042-7496371	0-0.003	0.0002-0.0016	0-0.003	0-0.003
PQI #5 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate	AREA	2582	0-7815	352-4560813	0-0.0257	0.0031-0.0073	0-0.0238	0-0.0235
PQI #7 Hypertension Admission Rate	AREA	2582	0-2223	1042-7496371	0-0.0021	0.0001-0.0008	0-0.0024	0-0.0018
PQI #8 Heart Failure Admission Rate	AREA	2582	0-8666	1042-7496371	0-0.0082	0.0006-0.0072	0-0.0087	0-0.0087
PQI #10 Dehydration Admission Rate	AREA	2582	0-2510	1042-7496371	0-0.003	0.0004-0.0027	0-0.003	0-0.003
PQI #11 Bacterial Pneumonia Admission Rate	AREA	2582	0-5410	1042-7496371	0-0.0104	0.0006-0.0052	0-0.0103	0-0.0094
PQI #12 Urinary Tract Infection Admission Rate	AREA	2582	0-6236	1042-7496371	0-0.0053	0.0006-0.003	0-0.0051	0-0.0047
PQI #14 Uncontrolled Diabetes Admission Rate	AREA	2582	0-736	1042-7496371	0-0.0006	0.0001-0.0002	0-0.0006	0-0.0005
PQI #15 Asthma in Younger Adults Admission Rate	AREA	2582	0-370	379-2935558	0-0.0015	0.0003-0.0005	0-0.0016	0-0.0014
PQI #16 Lower-Extremity Amputation among Patients with Diabetes Rate	AREA	2582	0-424	1042-7496371	0-0.0007	0-0.0003	0-0.0008	0-0.0004
PQI #90 Prevention Quality Overall Composite	AREA	2582	0-38317	1042-7496371	0-0.0451	0.0045-0.0278	0-0.0399	0-0.0397
PQI #91 Prevention Quality Acute Composite	AREA	2582	0-14156	1042-7496371	0-0.0175	0.0017-0.0109	0-0.0172	0-0.0162
PQI #92 Prevention Quality Chronic Composite	AREA	2582	0-24163	1042-7496371	0-0.0325	0.0028-0.017	0-0.0288	0-0.0285
Patient Safety Indicators(PSIs)								
PSI #2 Death Rate in Low-Mortality Diagnosis Related Groups (DRGs)	PROVIDER	376	0-9	1-15172	0-0.5	0-0.019	0-0.0082	0-0.0012
PSI #3 Pressure Ulcer Rate	PROVIDER	383	0-51	1-27422	0-0.0312	0-0.0024	0-0.0076	0-0.0046
PSI #4 Death Rate among Surgical Inpatients with	PROVIDER	305	0-85	1-524	0-1	0.0126-0.3133	0-2.2597	0.0763-0.169
PSI #4A Stratum A	PROVIDER	260	0-9	1-113	0-1	0.0095-0.2565	0-0.6899	0.0399-0.0659
PSI #4B Stratum B	PROVIDER	294	0-20	1-227	0-1	0.0126-0.1943	0-0.4025	0.043-0.0999

QI	Type	SAS Version 6.0						
		Nbr of Provider or Counties	Range Num	Range Den	Range ObsRate (Ratio)	Range ExpRate (Variance)	Range RiskAdjRate (Standard Error)	Range SmoothRate (Weight)
PSI #4C Stratum C	PROVIDER	273	0-23	1-105	0-1	0.08-0.4783	0-0.7337	0.1145-0.2791
PSI #4D Stratum D	PROVIDER	256	0-34	1-75	0-1	0.1174-0.6167	0-0.8977	0.2355-0.5089
PSI #4E Stratum E	PROVIDER	260	0-10	1-98	0-1	0.0026-0.2526	0-0.3172	0.0359-0.0555
PSI #5 Retained Surgical Item or Unretrieved Device Fragment Count	PROVIDER	62	1-4	1-4	1-1			
PSI #6 Iatrogenic Pneumothorax Rate	PROVIDER	395	0-22	1-41307	0-0.0122	0-0.0022	0-0.0057	0.0001-0.0007
PSI #7 Central Venous Catheter-Related Blood Stream Infection Rate	PROVIDER	394	0-17	1-29965	0-0.0651	0-0.0022	0-0.0227	0-0.0016
PSI #8 Postoperative Hip Fracture Rate	PROVIDER	394	0-9	1-30846	0-0.0062	0-0.0008	0-0.0074	0-0.0005
PSI #9 Perioperative Hemorrhage or Hematoma Rate	PROVIDER	331	0-125	1-14586	0-0.0625	0.0007-0.0215	0-0.0781	0.0013-0.0087
PSI #10 Postoperative Physiologic and Metabolic Derangement Rate	PROVIDER	273	0-17	1-6138	0-0.0769	0.0001-0.0315	0-0.0566	0.0002-0.0022
PSI #11 Postoperative Respiratory Failure Rate	PROVIDER	269	0-77	1-5132	0-0.25	0.0021-0.1923	0-0.1089	0.0008-0.0241
PSI #12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate	PROVIDER	331	0-109	1-15807	0-0.125	0.001-0.0609	0-0.0805	0.0006-0.0091
PSI #13 Postoperative Sepsis Rate	PROVIDER	271	0-52	1-5948	0-0.5	0.0008-0.2217	0-0.1164	0.0011-0.0109
PSI #14 Postoperative Wound Dehiscence Rate	PROVIDER	291	0-8	1-1956	0-1	0.0003-0.0075	0-0.0219	0.0009-0.0046
PSI #15 Accidental Puncture or Laceration Rate	PROVIDER	301	0-9	1-2549	0-0.0098	0.0003-0.0044	0-0.0082	0.0003-0.0024
PSI #16 Transfusion Reaction Count	PROVIDER	4	1-5	1-5	1-1			
PSI #18 Obstetric Trauma Rate – Vaginal Delivery With Instrument	PROVIDER	167	0-45	1-415	0-0.5			
PSI #19 Obstetric Trauma Rate – Vaginal Delivery Without Instrument	PROVIDER	175	0-155	1-7743	0-0.067			
PSI #21 Retained Surgical Item or Unretrieved Device Fragment Rate	AREA	2582	0-22	1042-7496371	0-0.0001			
PSI #22 Iatrogenic Pneumothorax Rate	AREA	2582	0-90	1042-7496371	0-0.0004			
PSI #23 Central Venous Catheter-Related Blood Stream Infection Rate	AREA	2582	0-155	1042-7496371	0-0.0004			
PSI #24 Postoperative Wound Dehiscence Rate	AREA	2582	0-33	1042-7496371	0-0.0002			

QI	Type	SAS Version 6.0						
		Nbr of Provider or Counties	Range Num	Range Den	Range ObsRate (Ratio)	Range ExpRate (Variance)	Range RiskAdjRate (Standard Error)	Range SmoothRate (Weight)
PSI #25 Accidental Puncture or Laceration Rate	AREA	2582	0-10	1042-7496371	0-0.0001			
PSI #26 Transfusion Reaction Rate	AREA	2582	0-2	1042-7496371	0-0			
PSI #27 Perioperative Hemorrhage or Hematoma Rate	AREA	2582	0-557	1042-7496371	0-0.0007			
Inpatient Quality Indicators (IQIs)								
IQI #1 Esophageal Resection Volume	PROVIDER	76	1-41					
IQI #2 Pancreatic Resection Volume	PROVIDER	130	1-107					
IQI #2A Stratum A	PROVIDER	84	1-57					
IQI #2B Stratum B	PROVIDER	112	1-57					
IQI #4 Abdominal Aortic Aneurysm (AAA) Repair Volume	PROVIDER	181	1-134					
IQI #4A Stratum A	PROVIDER	74	1-13					
IQI #4B Stratum B	PROVIDER	100	1-42					
IQI #4C Stratum C	PROVIDER	83	1-8					
IQI #4D Stratum D	PROVIDER	172	1-88					
IQI #5 Coronary Artery Bypass Graft (CABG) Volume	PROVIDER	102	1-723					
IQI #6 Percutaneous Coronary Intervention (PCI) Volume	PROVIDER	177	1-1720					
IQI #7 Carotid Endarterectomy Volume	PROVIDER	209	1-257					
IQI #8 Esophageal Resection Mortality Rate	PROVIDER	71	0-4	1-31	0-1	0.0072-0.1651	0-1.2018	0.0142-0.1192
IQI #9 Pancreatic Resection Mortality Rate	PROVIDER	130	0-7	1-107	0-1	0.0038-0.1525	0-1.4981	0.0236-0.0391
IQI #9A Stratum A	PROVIDER	84	0-6	1-57	0-1	0.0017-0.1525	0-0.1626	
IQI #9B Stratum B	PROVIDER	112	0-2	1-57	0-1	0.0058-0.0702	0-1.2556	
IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate	PROVIDER	180	0-6	1-132	0-1	0.0003-0.1962	0-0.621	0.0126-0.0754
IQI #11A Stratum A	PROVIDER	73	0-4	1-13	0-1	0.2778-0.556	0-1.0763	

QI	Type	SAS Version 6.0						
		Nbr of Provider or Counties	Range Num	Range Den	Range ObsRate (Ratio)	Range ExpRate (Variance)	Range RiskAdjRate (Standard Error)	Range SmoothRate (Weight)
IQI #11B Stratum B	PROVIDER	100	0-3	1-42	0-1	0.0061-0.1423	0-0.3746	
IQI #11C Stratum C	PROVIDER	83	0-2	1-8	0-1	0.1267-0.3402	0-0.6591	
IQI #11D Stratum D	PROVIDER	172	0-2	1-88	0-1	0.0003-0.0933	0-0.2684	
IQI #12 Coronary Artery Bypass Graft (CABG) Mortality Rate	PROVIDER	102	0-24	1-710	0-0.2727	0.0081-0.0583	0-0.2666	0.0062-0.0465
IQI #13 Craniotomy Mortality Rate	PROVIDER	155	0-54	1-813	0-0.5	0.001-0.2285	0-0.9537	0.027-0.0934
IQI #14 Hip Replacement Mortality Rate	PROVIDER	251	0-2	1-593	0-0.0769	0-0.016	0-0.4495	0.0003-0.0015
IQI #15 Acute Myocardial Infarction (AMI) Mortality Rate	PROVIDER	289	0-62	1-950	0-1	0.0162-0.2603	0-0.4678	0.0126-0.1164
IQI #16 Heart Failure Mortality Rate	PROVIDER	321	0-50	1-1328	0-1	0.0055-0.1643	0-1.1127	0.0042-0.0779
IQI #17 Acute Stroke Mortality Rate	PROVIDER	289	0-136	1-1273	0-1	0.0047-0.4858	0-0.929	0.015-0.1599
IQI #17A Stratum A	PROVIDER	166	0-37	1-163	0-1	0.035-0.5592	0-0.9222	
IQI #17B Stratum B	PROVIDER	245	0-66	1-315	0-1	0.0683-0.6414	0-1.3069	
IQI #17C Stratum C	PROVIDER	287	0-52	1-834	0-1	0.0047-0.1244	0-0.6038	
IQI #18 Gastrointestinal Hemorrhage Mortality Rate	PROVIDER	302	0-19	1-741	0-1	0.0022-0.0826	0-0.2281	0.0072-0.0487
IQI #19 Hip Fracture Mortality Rate	PROVIDER	261	0-11	1-378	0-0.5	0.0024-0.1962	0-0.2002	0.0158-0.0352
IQI #20 Pneumonia Mortality Rate	PROVIDER	329	0-42	1-1008	0-0.5	0.0012-0.1483	0-0.4208	0.012-0.0711
IQI #21 Cesarean Delivery Rate, Uncomplicated	PROVIDER	176	0-4150	1-11403	0-1			
IQI #22 Vaginal Birth After Cesarean (VBAC) Delivery Rate, Uncomplicated	PROVIDER	169	0-253	1-2348	0-0.2972			
IQI #23 Laparoscopic Cholecystectomy Rate	PROVIDER	274	1-520	1-536	0.0294-1			
IQI #24 Incidental Appendectomy in the Elderly Rate	PROVIDER	290	0-20	1-771	0-0.5			
IQI #25 Bilateral Cardiac Catheterization Rate	PROVIDER	224	0-57	1-2659	0-0.3333			
IQI #26 Coronary Artery Bypass Graft (CABG) Rate	AREA	2582	0-1143	352-4560813	0-0.0038	0.0008-0.0017	0-0.0038	0-0.0033
IQI #27 Percutaneous Coronary Intervention (PCI) Rate	AREA	2582	0-4370	352-4560813	0-0.0091	0.0021-0.0038	0-0.0083	0-0.008

QI	Type	SAS Version 6.0						
		Nbr of Provider or Counties	Range Num	Range Den	Range ObsRate (Ratio)	Range ExpRate (Variance)	Range RiskAdjRate (Standard Error)	Range SmoothRate (Weight)
IQI #28 Hysterectomy Rate	AREA	2582	0-2144	511-3853686	0-0.0037	0.0002-0.0017	0-0.0047	0-0.0039
IQI #29 Laminectomy or Spinal Fusion Rate	AREA	2582	0-3963	1042-7496371	0-0.007	0.0005-0.0033	0-0.007	0-0.0064
IQI #30 Percutaneous Coronary Intervention (PCI) Mortality Rate	PROVIDER	174	0-31	1-1673	0-0.1429	0.0031-0.0465	0-0.093	0.0163-0.0326
IQI #31 Carotid Endarterectomy Mortality Rate	PROVIDER	209	0-2	1-257	0-0.2857	0.0005-0.0141	0-0.4128	0.0039-0.0048
IQI #32 Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases	PROVIDER	280	0-58	1-928	0-1	0.0165-0.2005	0-0.4827	0.0161-0.1158
IQI #33 Primary Cesarean Delivery Rate,Uncomplicated	PROVIDER	176	0-1955	1-9055	0-1			
IQI #34 Vaginal Birth After Cesarean (VBAC) Rate,All	PROVIDER	170	0-277	1-2734	0-0.2718			
IQI #1 Esophageal Resection Volume	PROVIDER	76	1-41					
IQI #2 Pancreatic Resection Volume	PROVIDER	130	1-107					
IQI #2A Stratum A	PROVIDER	84	1-57					
IQI #2B Stratum B	PROVIDER	112	1-57					
IQI #4 Abdominal Aortic Aneurysm (AAA) Repair Volume	PROVIDER	181	1-134					
IQI #4A Stratum A	PROVIDER	74	1-13					
IQI #4B Stratum B	PROVIDER	100	1-42					
IQI #4C Stratum C	PROVIDER	83	1-8					
IQI #4D Stratum D	PROVIDER	172	1-88					
IQI #5 Coronary Artery Bypass Graft (CABG) Volume	PROVIDER	102	1-723					
IQI #6 Percutaneous Coronary Intervention (PCI) Volume	PROVIDER	177	1-1720					
IQI #7 Carotid Endarterectomy Volume	PROVIDER	209	1-257					
IQI #8 Esophageal Resection Mortality Rate	PROVIDER	71	0-4	1-31	0-1	0.0072-0.1651	0-1.2018	0.0142-0.1192
IQI #9 Pancreatic Resection Mortality Rate	PROVIDER	130	0-7	1-107	0-1	0.0038-0.1525	0-1.4981	0.0236-0.0391
IQI #9A Stratum A	PROVIDER	84	0-6	1-57	0-1	0.0017-0.1525	0-0.1626	

QI	Type	SAS Version 6.0						
		Nbr of Provider or Counties	Range Num	Range Den	Range ObsRate (Ratio)	Range ExpRate (Variance)	Range RiskAdjRate (Standard Error)	Range SmoothRate (Weight)
IQI #9B Stratum B	PROVIDER	112	0-2	1-57	0-1	0.0058-0.0702	0-1.2556	
IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate	PROVIDER	180	0-6	1-132	0-1	0.0003-0.1962	0-0.621	0.0126-0.0754
IQI #11A Stratum A	PROVIDER	73	0-4	1-13	0-1	0.2778-0.556	0-1.0763	
IQI #11B Stratum B	PROVIDER	100	0-3	1-42	0-1	0.0061-0.1423	0-0.3746	
IQI #11C Stratum C	PROVIDER	83	0-2	1-8	0-1	0.1267-0.3402	0-0.6591	
IQI #11D Stratum D	PROVIDER	172	0-2	1-88	0-1	0.0003-0.0933	0-0.2684	
IQI #12 Coronary Artery Bypass Graft (CABG) Mortality Rate	PROVIDER	102	0-24	1-710	0-0.2727	0.0081-0.0583	0-0.2666	0.0062-0.0465
IQI #13 Craniotomy Mortality Rate	PROVIDER	155	0-54	1-813	0-0.5	0.001-0.2285	0-0.9537	0.027-0.0934
IQI #14 Hip Replacement Mortality Rate	PROVIDER	251	0-2	1-593	0-0.0769	0-0.016	0-0.4495	0.0003-0.0015
IQI #15 Acute Myocardial Infarction (AMI) Mortality Rate	PROVIDER	289	0-62	1-950	0-1	0.0162-0.2603	0-0.4678	0.0126-0.1164
IQI #16 Heart Failure Mortality Rate	PROVIDER	321	0-50	1-1328	0-1	0.0055-0.1643	0-1.1127	0.0042-0.0779
IQI #17 Acute Stroke Mortality Rate	PROVIDER	289	0-136	1-1273	0-1	0.0047-0.4858	0-0.929	0.015-0.1599
IQI #17A Stratum A	PROVIDER	166	0-37	1-163	0-1	0.035-0.5592	0-0.9222	
IQI #17B Stratum B	PROVIDER	245	0-66	1-315	0-1	0.0683-0.6414	0-1.3069	
IQI #17C Stratum C	PROVIDER	287	0-52	1-834	0-1	0.0047-0.1244	0-0.6038	
IQI #18 Gastrointestinal Hemorrhage Mortality Rate	PROVIDER	302	0-19	1-741	0-1	0.0022-0.0826	0-0.2281	0.0072-0.0487
IQI #19 Hip Fracture Mortality Rate	PROVIDER	261	0-11	1-378	0-0.5	0.0024-0.1962	0-0.2002	0.0158-0.0352
IQI #20 Pneumonia Mortality Rate	PROVIDER	329	0-42	1-1008	0-0.5	0.0012-0.1483	0-0.4208	0.012-0.0711
IQI #21 Cesarean Delivery Rate, Uncomplicated	PROVIDER	176	0-4150	1-11403	0-1			
IQI #22 Vaginal Birth After Cesarean (VBAC) Delivery Rate, Uncomplicated	PROVIDER	169	0-253	1-2348	0-0.2972			
IQI #23 Laparoscopic Cholecystectomy Rate	PROVIDER	274	1-520	1-536	0.0294-1			
IQI #24 Incidental Appendectomy in the Elderly Rate	PROVIDER	290	0-20	1-771	0-0.5			

QI	Type	SAS Version 6.0						
		Nbr of Provider or Counties	Range Num	Range Den	Range ObsRate (Ratio)	Range ExpRate (Variance)	Range RiskAdjRate (Standard Error)	Range SmoothRate (Weight)
IQI #25 Bilateral Cardiac Catheterization Rate	PROVIDER	224	0-57	1-2659	0-0.3333			
IQI #26 Coronary Artery Bypass Graft (CABG) Rate	AREA	2582	0-1143	352-4560813	0-0.0038	0.0008-0.0017	0-0.0038	0-0.0033
IQI #27 Percutaneous Coronary Intervention (PCI) Rate	AREA	2582	0-4370	352-4560813	0-0.0091	0.0021-0.0038	0-0.0083	0-0.008
IQI #28 Hysterectomy Rate	AREA	2582	0-2144	511-3853686	0-0.0037	0.0002-0.0017	0-0.0047	0-0.0039
IQI #29 Laminectomy or Spinal Fusion Rate	AREA	2582	0-3963	1042-7496371	0-0.007	0.0005-0.0033	0-0.007	0-0.0064
IQI #30 Percutaneous Coronary Intervention (PCI) Mortality Rate	PROVIDER	174	0-31	1-1673	0-0.1429	0.0031-0.0465	0-0.093	0.0163-0.0326
IQI #31 Carotid Endarterectomy Mortality Rate	PROVIDER	209	0-2	1-257	0-0.2857	0.0005-0.0141	0-0.4128	0.0039-0.0048
IQI #32 Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases	PROVIDER	280	0-58	1-928	0-1	0.0165-0.2005	0-0.4827	0.0161-0.1158
IQI #33 Primary Cesarean Delivery Rate,Uncomplicated	PROVIDER	176	0-1955	1-9055	0-1			
IQI #34 Vaginal Birth After Cesarean (VBAC) Rate,All	PROVIDER	170	0-277	1-2734	0-0.2718			

SOURCE: Agency for Healthcare Research and Quality, AHRQ Healthcare Cost and Utilization Project (HCUP) data: 3,571,315 discharges in the Florida 2013 and Maryland and Nevada 2012 HCUP State Inpatient Databases (SID) (unweighted) and AHRQ Quality Indicator SAS and WinQI ICD-9-CM Version 6.0 Software.
 NOTE: Only observed and adjusted ratios are reported for area-level indicators and composite

Table B.3 AHRQ SAS software Version 6.0, Detailed Provider/County Level

QI	Type	WinQI Version 6.0						
		Nbr of Provider / Facilities or Counties	Range Num	Range Den	Range ObsRate (Ratio)	Range ExpRate (Variance)	Range RiskAdjRate (Standard Error)	Range SmoothRate (Weighted)
Prevention Quality Indicators (PQIs)								
PQI #1 Diabetes Short-Term Complications Admission Rate	AREA	2582	0-1095	1042-7496371	0-0.0015	0.0005-0.001	0-0.0015	0-0.0014
PQI #2 Perforated Appendix Admission Rate	AREA	502	0-473	1-2018	0-1	0.1793-0.57	0-1	0.2091-0.4772
PQI #3 Diabetes Long-Term Complications Admission Rate	AREA	2582	0-3074	1042-7496371	0-0.003	0.0002-0.0016	0-0.003	0-0.003
PQI #5 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate	AREA	2582	0-7815	352-4560813	0-0.0257	0.0031-0.0073	0-0.0238	0-0.0235
PQI #7 Hypertension Admission Rate	AREA	2582	0-2223	1042-7496371	0-0.0021	0.0001-0.0008	0-0.0024	0-0.0018
PQI #8 Heart Failure Admission Rate	AREA	2582	0-8666	1042-7496371	0-0.0082	0.0006-0.0072	0-0.0087	0-0.0087
PQI #10 Dehydration Admission Rate	AREA	2582	0-2510	1042-7496371	0-0.003	0.0004-0.0027	0-0.003	0-0.003
PQI #11 Bacterial Pneumonia Admission Rate	AREA	2582	0-5410	1042-7496371	0-0.0104	0.0006-0.0052	0-0.0103	0-0.0094
PQI #12 Urinary Tract Infection Admission Rate	AREA	2582	0-6236	1042-7496371	0-0.0053	0.0006-0.003	0-0.0051	0-0.0047
PQI #14 Uncontrolled Diabetes Admission Rate	AREA	2582	0-736	1042-7496371	0-0.0006	0.0001-0.0002	0-0.0006	0-0.0005
PQI #15 Asthma in Younger Adults Admission Rate	AREA	2582	0-370	379-2935558	0-0.0015	0.0003-0.0005	0-0.0016	0-0.0014
PQI #16 Lower-Extremity Amputation among Patients with Diabetes Rate	AREA	2582	0-424	1042-7496371	0-0.0007	0-0.0003	0-0.0008	0-0.0004
PQI #90 Prevention Quality Overall Composite	AREA	2582	0-38317	1042-7496371	0-0.0451	0.0045-0.0278	0-0.0399	0-0.0397
PQI #91 Prevention Quality Acute Composite	AREA	2582	0-14156	1042-7496371	0-0.0175	0.0017-0.0109	0-0.0173	0-0.0162
PQI #92 Prevention Quality Chronic Composite	AREA	2582	0-24163	1042-7496371	0-0.0325	0.0028-0.017	0-0.0288	0-0.0285
Patient Safety Indicators(PSIs)								
PSI #2 Death Rate in Low-Mortality Diagnosis Related Groups (DRGs)	PROVIDER	376	0-9	1-15172	0-0.5	0-0.0394	0-0.0358	0-0.0012
PSI #3 Pressure Ulcer Rate	PROVIDER	383	0-51	1-27422	0-0.0312	0-0.0052	0-0.0076	0-0.0046
PSI #4 Death Rate among Surgical Inpatients with Serious Treatable	PROVIDER	305	0.0-5.0	1-524	0-1	0.0086-0.5274	0-1	0.0763-0.169
PSI #4A Stratum A	PROVIDER	260	0.0-48.0	1-113	0-1	0.0038-0.458	0-1	0.0399-0.0659
PSI #4B Stratum B	PROVIDER	294	0.0-90.0	1-227	0-1	0.0086-0.2032	0-0.9099	0.043-0.0999

QI	Type	WinQI Version 6.0						
		Nbr of Provider / Facilities or Counties	Range Num	Range Den	Range ObsRate (Ratio)	Range ExpRate (Variance)	Range RiskAdjRate (Standard Error)	Range SmoothRate (Weight)
PSI #4C Stratum C	PROVIDER	273	0.0-9.0	1-105	0-1	0.0085-0.6272	0-1	0.1145-0.2791
PSI #4D Stratum D	PROVIDER	256	0.0-21.0	1-75	0-1	0.0818-0.7903	0-1	0.2355-0.5089
PSI #4E Stratum E	PROVIDER	260	0.0-26.0	1-98	0-1	0.0006-0.2526	0-0.5574	0.0359-0.0555
PSI #5 Retained Surgical Item or Unretrieved Device Fragment Count	PROVIDER	62	0.0-34.0					
PSI #6 Iatrogenic Pneumothorax Rate	PROVIDER	395	0.0-11.0	1-41307	0-0.0122	0-0.0022	0-0.0057	0.0001-0.0007
PSI #7 Central Venous Catheter-Related Blood Stream Infection Rate	PROVIDER	394	1.0-4.0	1-29965	0-0.0651	0-0.0022	0-0.0233	0-0.0016
PSI #8 Postoperative Hip Fracture Rate	PROVIDER	394	0.0-22.0	1-30846	0-0.0062	0-0.0008	0-0.0074	0-0.0005
PSI #9 Perioperative Hemorrhage or Hematoma Rate	PROVIDER	331	0.0-17.0	1-14586	0-0.0625	0.0007-0.0215	0-0.0781	0.0013-0.0087
PSI #10 Postoperative Physiologic and Metabolic Derangement Rate	PROVIDER	273	0.0-2.0	1-6138	0-0.0769	0.0001-0.0315	0-0.0566	0.0002-0.0022
PSI #11 Postoperative Respiratory Failure Rate	PROVIDER	269	0.0-143.0	1-5132	0-0.25	0.0012-0.352	0-0.1089	0.0008-0.0241
PSI #12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate	PROVIDER	331	0.0-22.0	1-15807	0-0.125	0.001-0.0609	0-0.0805	0.0006-0.0091
PSI #13 Postoperative Sepsis Rate	PROVIDER	271	0.0-88.0	1-5948	0-0.5	0.0008-0.2217	0-0.1164	0.0011-0.0109
PSI #14 Postoperative Wound Dehiscence Rate	PROVIDER	291	0.0-141.0	1-1956	0-1	0.0003-0.0165	0-0.439	0.0009-0.0046
PSI #15 Accidental Puncture or Laceration Rate	PROVIDER	301	0.0-24.0	1-2549	0-0.0098	0.0002-0.0067	0-0.0082	0.0003-0.0024
PSI #16 Transfusion Reaction Count	PROVIDER	4	0.0-8.0					
PSI #18 Obstetric Trauma Rate – Vaginal Delivery With Instrument	PROVIDER	167	1.0-5.0	1-415	0-0.5			
PSI #19 Obstetric Trauma Rate – Vaginal Delivery Without Instrument	PROVIDER	175	0.0-80.0	1-7743	0-0.067			
PSI#21 Retained Surgical Item or Unretrieved Device Fragment Rate	AREA	2582	0.0-45.0	1042-7496371	0-0.0001			
PSI #22 Iatrogenic Pneumothorax Rate	AREA	2582	0.0-155.0	1042-7496371	0-0.0004			
PSI #23 Central Venous Catheter-Related Blood Stream Infection Rate	AREA	2582	0.0-22.0	1042-7496371	0-0.0004			

QI	Type	WinQI Version 6.0						
		Nbr of Provider / Facilities or Counties	Range Num	Range Den	Range ObsRate (Ratio)	Range ExpRate (Variance)	Range RiskAdjRate (Standard Error)	Range SmoothRate (Weight)
PSI #24 Postoperative Wound Dehiscence Rate	AREA	2582	0.0-90.0	1042-7496371	0-0.0002			
PSI #25 Accidental Puncture or Laceration Rate	AREA	2582	0.0-156.0	1042-7496371	0-0.0001			
PSI #26 Transfusion Reaction Rate	AREA	2582	0.0-33.0	1042-7496371	0-0			
PSI #27 Perioperative Hemorrhage or Hematoma Rate	AREA	2582	0.0-418.0	1042-7496371	0-0.0007			
Inpatient Quality Indicators (IQIs)								
IQI #1 Esophageal Resection Volume	PROVIDER	76	1-41					
IQI #2 Pancreatic Resection Volume	PROVIDER	130	1-107					
IQI #2A Stratum A	PROVIDER	84	1-57					
IQI #2B Stratum B	PROVIDER	112	1-57					
IQI #4 Abdominal Aortic Aneurysm (AAA) Repair Volume	PROVIDER	181	1-134					
IQI #4A Stratum A	PROVIDER	74	1-13					
IQI #4B Stratum B	PROVIDER	100	1-42					
IQI #4C Stratum C	PROVIDER	83	1-8					
IQI #4D Stratum D	PROVIDER	172	1-88					
IQI #5 Coronary Artery Bypass Graft (CABG) Volume	PROVIDER	102	1-723					
IQI #6 Percutaneous Coronary Intervention (PCI) Volume	PROVIDER	177	1-1720					
IQI #7 Carotid Endarterectomy Volume	PROVIDER	209	1-257					
IQI #8 Esophageal Resection Mortality Rate	PROVIDER	71	0-4	1-31	0-1	0.0028-0.2262	0-1	0.0142-0.1192
IQI #9 Pancreatic Resection Mortality Rate	PROVIDER	130	0-7	1-107	0-1	0.0004-0.4266	0-1	0.0236-0.0391
IQI #9A Stratum A	PROVIDER	84	0-6	1-57	0-1	0.0004-0.3722	0-0.1626	0-0
IQI #9B Stratum B	PROVIDER	112	0-2	1-57	0-1	0.004-0.4266	0-1	0-0
IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate	PROVIDER	180	0-6	1-132	0-1	0.0001-0.4173	0-0.621	0.0126-0.0754
IQI #11A Stratum A	PROVIDER	73	0-4	1-13	0-1	0.1727-0.633	0-1	0-0
IQI #11B Stratum B	PROVIDER	100	0-3	1-42	0-1	0.0044-0.2669	0-1	0-0
IQI #11C Stratum C	PROVIDER	83	0-2	1-8	0-1	0.1069-0.3736	0-1	0-0

QI	Type	WinQI Version 6.0						
		Nbr of Provider / Facilities or Counties	Range Num	Range Den	Range ObsRate (Ratio)	Range ExpRate (Variance)	Range RiskAdjRate (Standard Error)	Range SmoothRate (Weight)
IQI #11D Stratum D	PROVIDER	172	0-2	1-88	0-1	0.0001-0.0933	0-1	0-0
IQI #12 Coronary Artery Bypass Graft (CABG) Mortality Rate	PROVIDER	102	0-24	1-710	0-0.2727	0.0032-0.1431	0-0.2666	0.0062-0.0465
IQI #13 Craniotomy Mortality Rate	PROVIDER	155	0-54	1-813	0-0.5	0.0005-0.3692	0-0.9537	0.027-0.0934
IQI #14 Hip Replacement Mortality Rate	PROVIDER	251	0-2	1-593	0-0.0769	0-0.016	0-0.4495	0.0003-0.0015
IQI #15 Acute Myocardial Infarction (AMI) Mortality Rate	PROVIDER	289	0-62	1-950	0-1	0.0078-0.4128	0-1	0.0126-0.1164
IQI #16 Heart Failure Mortality Rate	PROVIDER	321	0-50	1-1328	0-1	0.0012-0.1643	0-1	0.0042-0.0779
IQI #17 Acute Stroke Mortality Rate	PROVIDER	289	0-136	1-1273	0-1	0.002-0.6059	0-1	0.015-0.1599
IQI #17A Stratum A	PROVIDER	166	0-37	1-163	0-1	0.023-0.848	0-1	0-0
IQI #17B Stratum B	PROVIDER	245	0-66	1-315	0-1	0.0431-0.7174	0-1	0-0
IQI #17C Stratum C	PROVIDER	287	0-52	1-834	0-1	0.002-0.1691	0-1	0-0
IQI #18 Gastrointestinal Hemorrhage Mortality Rate	PROVIDER	302	0-19	1-741	0-1	0.0004-0.3352	0-0.2281	0.0072-0.0487
IQI #19 Hip Fracture Mortality Rate	PROVIDER	261	0-11	1-378	0-0.5	0.0024-0.2011	0-0.2002	0.0158-0.0352
IQI #20 Pneumonia Mortality Rate	PROVIDER	329	0-42	1-1008	0-0.5	0.0007-0.1672	0-0.4208	0.012-0.0711
IQI #21 Cesarean Delivery Rate, Uncomplicated	PROVIDER	176	0-4150	1-11403	0-1			
IQI #22 Vaginal Birth After Cesarean (VBAC) Delivery Rate, Uncomplicated	PROVIDER	169	0-253	1-2348	0-0.2972			
IQI #23 Laparoscopic Cholecystectomy Rate	PROVIDER	274	1-520	1-536	0.0294-1			
IQI #24 Incidental Appendectomy in the Elderly Rate	PROVIDER	290	0-20	1-771	0-0.5			
IQI #25 Bilateral Cardiac Catheterization Rate	PROVIDER	224	0-57	1-2659	0-0.3333			
IQI #26 Coronary Artery Bypass Graft (CABG) Rate	AREA	2582	0-1143	352-4560813	0-0.0038	0.0008-0.0017	0-0.0038	0-0.0033
IQI #27 Percutaneous Coronary Intervention (PCI) Rate	AREA	2582	0-4370	352-4560813	0-0.0091	0.0021-0.0038	0-0.0083	0-0.008
IQI #28 Hysterectomy Rate	AREA	2582	0-2144	511-3853686	0-0.0037	0.0002-0.0017	0-0.0047	0-0.0039
IQI #29 Laminectomy or Spinal Fusion Rate	AREA	2582	0-3963	1042-7496371	0-0.007	0.0005-0.0033	0-0.007	0-0.0064
IQI #30 Percutaneous Coronary Intervention (PCI) Mortality Rate	PROVIDER	174	0-31	1-1673	0-0.1429	0.0005-0.19	0-0.093	0.0163-0.0326
IQI #31 Carotid Endarterectomy Mortality Rate	PROVIDER	209	0-2	1-257	0-0.2857	0.0004-0.0141	0-0.4128	0.0039-0.0048
IQI #32 Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer	PROVIDER	280	0-58	1-928	0-1	0.0081-0.4043	0-0.4827	0.0161-0.1158
IQI #33 Primary Cesarean Delivery Rate,Uncomplicated	PROVIDER	176	0-1955	1-9055	0-1			
IQI #34 Vaginal Birth After Cesarean (VBAC) Rate,All	PROVIDER	170	0-277	1-2734	0-0.2718			

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NOTE: Only observed and adjusted ratios are reported for area-level indicators and composites