

Updates to the AHRQ Quality Indicator-specific methodology will be implemented in HIDI reports starting with FFY 2022 Quarter 4 reports. This document describes the underlying measurement updates and summarizes results of an impact analysis comparing quality indicator performance between the prior and updated methodology for Missouri hospitals during FFY 2021.

Version Update:

HIDI updated the AHRQ quality indicators (QI) from version 2019 to version 2020. Descriptions of the updates are available in the following locations for [PQI's](#), [IQI's](#), [PSI's](#) and [PDI's](#). Notable changes include expansion of all existing PSI and PDI numerator exclusions to the denominator, along with standard updates to the population file and FY2020 coding updates. Additional detail regarding notable changes can be found in the [Release Notes](#)

Provider-level metrics include HIDI-reporting hospitals in MO, IL, and metro Kansas City, KS hospitals. The Area-Level metrics include only Missouri residents.

Results:

Area-Level Quality Indicators: Differences between the updated O/E and prior O/E ratios ranged from a 26% reduction for PQI3 (Diabetes Long-Term Complications Admission Rate) to a 20% increase for PQI11 (Community-Acquired Pneumonia Admission Rate), and the differences are attributed to differences in expected values. The updated O/E ratios were lower than the prior O/E ratios for 12 out of 21 indicators. See supporting details in Figure 1.

Provider-Level Patient Safety Indicators (PSIs): Differences between the updated O/E and prior O/E ratios ranged from a 17% reduction for PSI142 (Postoperative Wound Dehiscence Rate Stratum: Non-Open Approach) to a 37% increase for PSI7 (Central Venous Catheter-Related Blood Stream Infection Rate), and the differences are primarily attributed to differences in expected values. Four PSIs had 0 expected values and thus null O/E values. The updated O/E ratios were higher than the prior O/E ratios for 13 out of 20 indicators. See supporting details in Figure 2.

Provider-Level Inpatient Quality Indicators (IQIs): Differences between the updated O/E and prior O/E ratios ranged from a 5% reduction for IQI111 (Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate for Stratum: Open Repair of Ruptured AAA) to a 51% increase for IQI173 (Acute Stroke Mortality Rate for Stratum: Ischemic Stroke), and the differences are attributed to differences in expected values. Four IQIs had 0 expected and thus null O/E values. The updated O/E ratios were higher than the prior O/E ratios for 18 out of 22 indicators. See supporting details in Figure 3.

Provider-Level Neonatal and Pediatric Indicators (NQI and PDIs): Expected values have not historically been computed for these indicators. Observed values ranged from 0% different to 8% higher (for Neonatal Blood Stream Infection Rate). See supporting details in Figure 4.

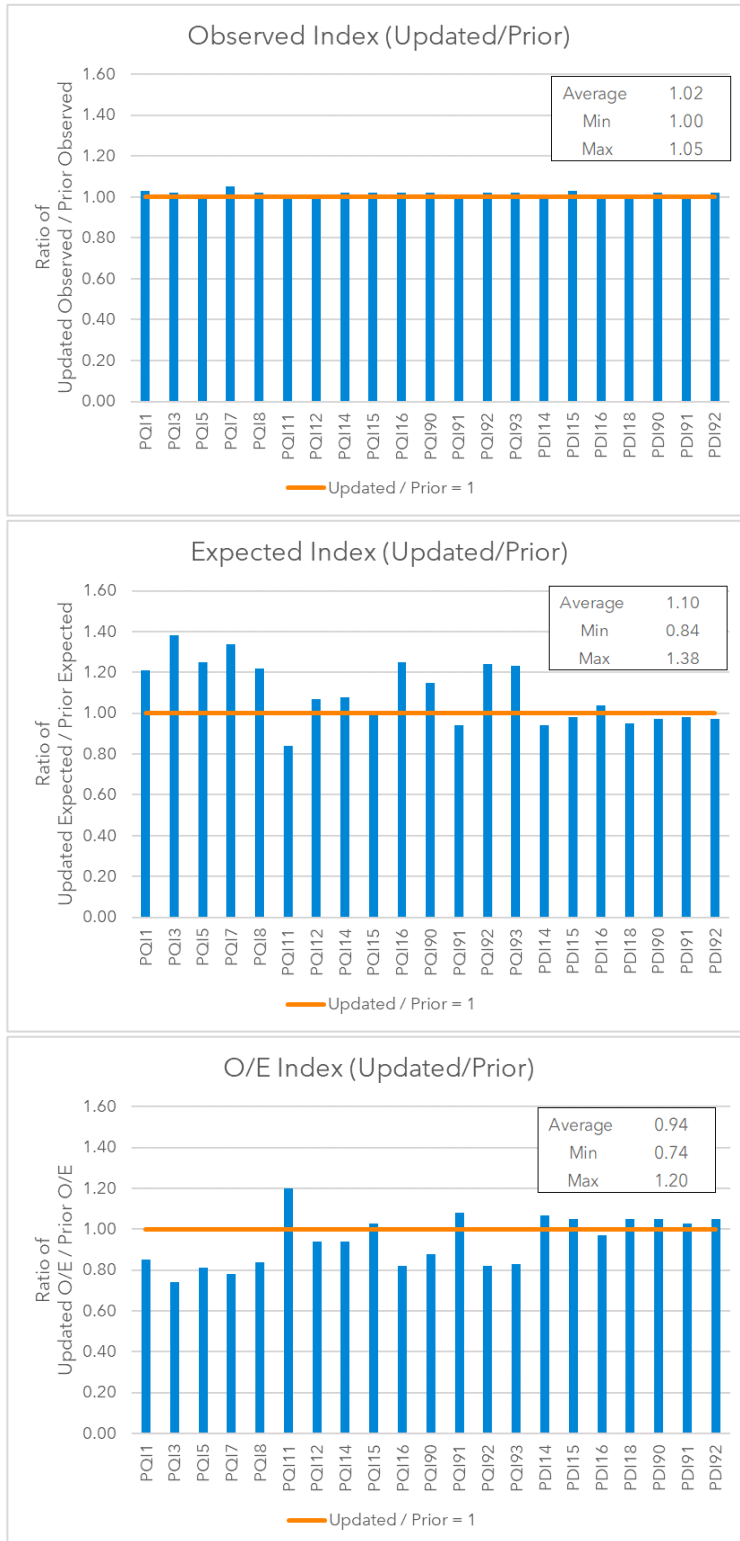
Conclusion:

This analysis demonstrates that the AHRQ updates from version 2019 to version 2020 have minimal impact on observed values for area-level and provider-level quality indicators. Hospitals may observe an increase in O/E ratios for many provider-level indicators due to lower expected values for many indicators.



Hospital Industry Data Institute: AHRQ Quality Indicator Updates

Figure 1: Impact Indices (Updated / Prior) for Area-Level Quality Indicators' Observed Values, Expected Values, and Observed/Expected (O/E) Ratios for FFY 2021 among Missouri residents

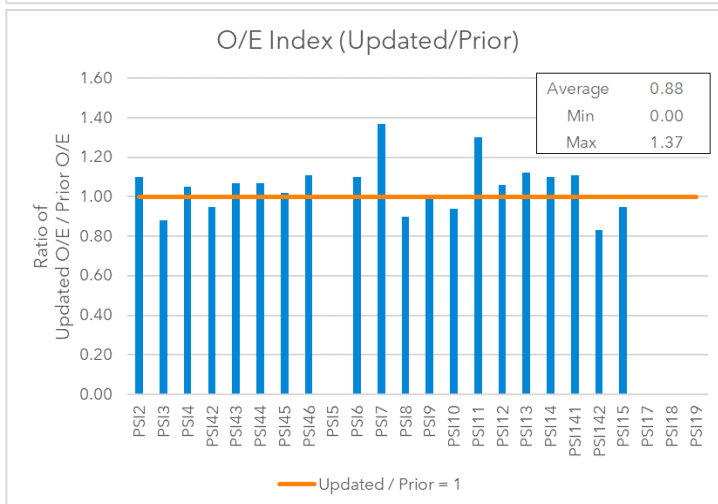
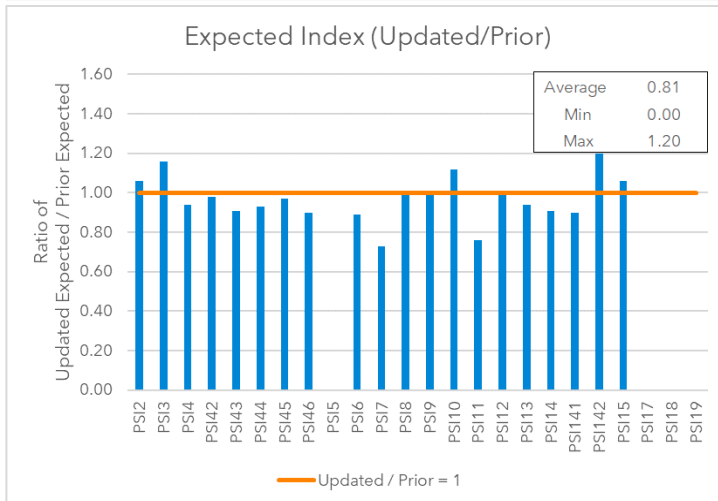
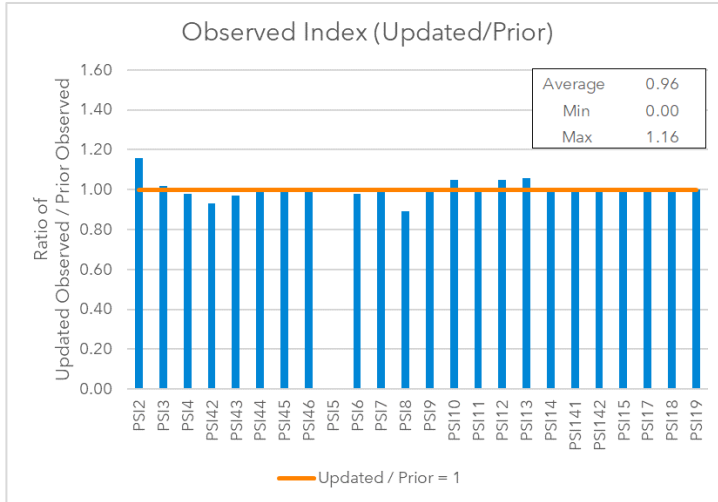


Key:

PQI1	Diabetes Short-Term Complications Admission Rate
PQI3	Diabetes Long-Term Complications Admission Rate
PQI5	Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate
PQI7	Hypertension Admission Rate
PQI8	Heart Failure Admission Rate
PQI11	Community-Acquired Pneumonia Admission Rate
PQI12	Urinary Tract Infection Admission Rate
PQI14	Uncontrolled Diabetes Admission Rate
PQI15	Asthma in Younger Adults Admission Rate
PQI16	Lower-Extremity Amputation among Patients with Diabetes Rate
PQI90	Prevention Quality Overall Composite
PQI91	Prevention Quality Acute Composite
PQI92	Prevention Quality Chronic Composite
PQI93	Prevention Quality Diabetes Composite
PDI14	Asthma Admission Rate
PDI15	Diabetes Short-Term Complications Admission Rate
PDI16	Gastroenteritis Admission Rate
PDI18	Urinary Tract Infection Admission Rate
PDI90	Pediatric Quality Overall Composite
PDI91	Pediatric Quality Acute Composite
PDI92	Pediatric Quality Chronic Composite

Hospital Industry Data Institute: AHRQ Quality Indicator Updates

Figure 2: Impact Indices (Updated / Prior) for Provider-Level PSI Quality Indicators' Observed Values, Expected Values, and Observed/Expected (O/E) Ratios for FFY 2021 among HIDI-reporting hospitals in MO, IL, and metro Kansas City, KS hospitals

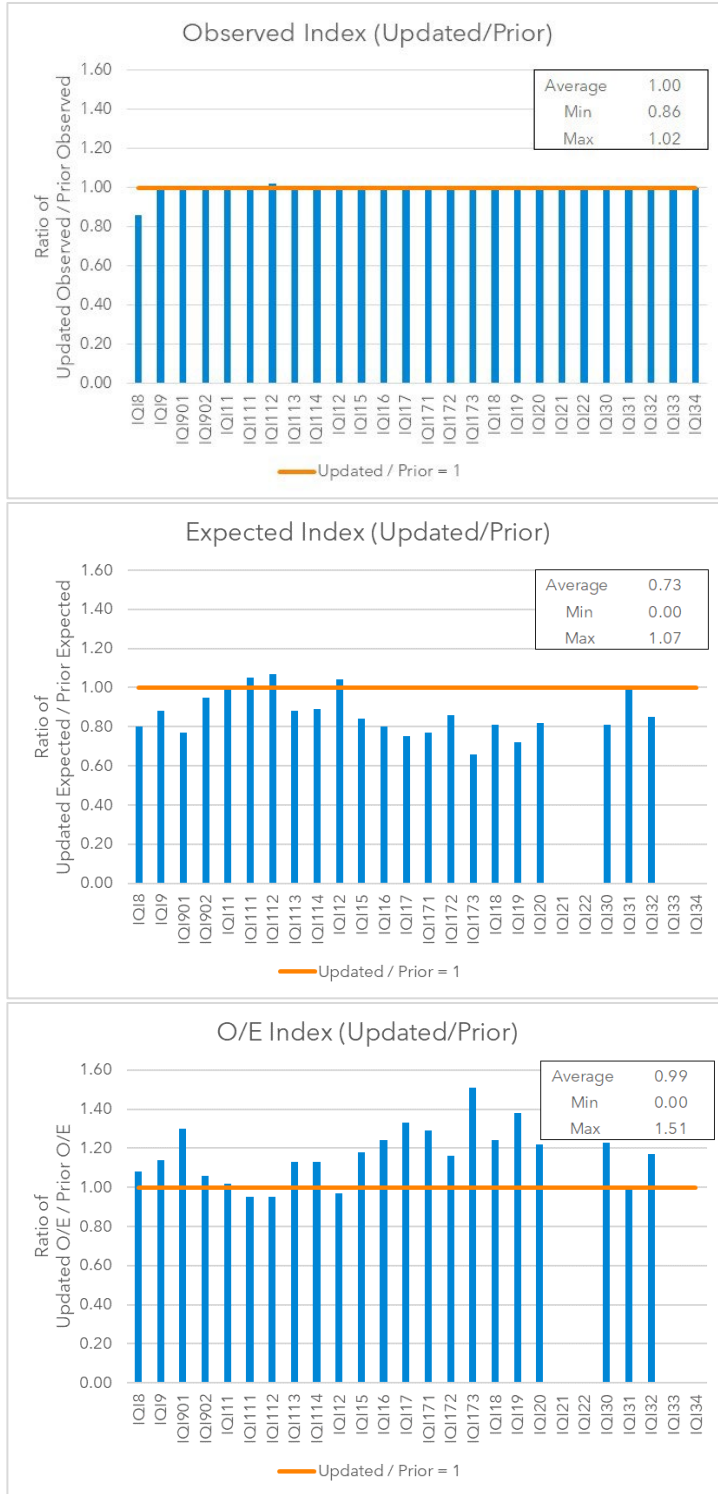


Key:

PSI2	Death Rate in Low-Mortality Diagnosis Related Groups (DRGs)
PSI3	Pressure Ulcer Rate
PSI4	Death Rate among Surgical Inpatients with Serious Treatable Conditions
PSI42	PSI4 for Stratum: Deep Vein Thrombosis/Pulmonary Embolism (DVT/PE)
PSI43	PSI4 for Stratum: Pneumonia
PSI44	PSI4 for Stratum: Sepsis
PSI45	PSI4 for Stratum: Shock/Cardiac Arrest
PSI46	PSI4 for Stratum: Gastrointestinal (GI) Hemorrhage/Acute Ulcer Retained Surgical Item or Unretrieved Device Fragment Count
PSI5	Unretrieved Device Fragment Count
PSI6	Iatrogenic Pneumothorax Rate
PSI7	Central Venous Catheter-Related Blood Stream Infection Rate
PSI8	In Hospital Fall with Hip Fracture Rate
PSI9	Perioperative Hemorrhage or Hematoma Rate
PSI10	Postoperative Acute Kidney Injury Requiring Dialysis Rate
PSI11	Postoperative Respiratory Failure Rate
PSI12	Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate
PSI13	Postoperative Sepsis Rate
PSI14	Postoperative Wound Dehiscence Rate
PSI141	Postoperative Wound Dehiscence Rate for Stratum: Open Approach
PSI142	Postoperative Wound Dehiscence Rate for Stratum: Non-Open Approach
PSI15	Unrecognized Abdominopelvic Accidental Puncture or Laceration Rate
PSI17	Birth Trauma Rate - Injury to Neonate
PSI18	Obstetric Trauma Rate - Vaginal Delivery With Instrument
PSI19	Obstetric Trauma Rate - Vaginal Delivery Without Instrument

Hospital Industry Data Institute: AHRQ Quality Indicator Updates

Figure 3: Impact Indices (Updated / Prior) for Provider-Level IQI Quality Indicators' Observed Values, Expected Values, and Observed/Expected (O/E) Ratios for FFY 2021 among HIDI-reporting hospitals in MO, IL, and metro Kansas City, KS hospitals

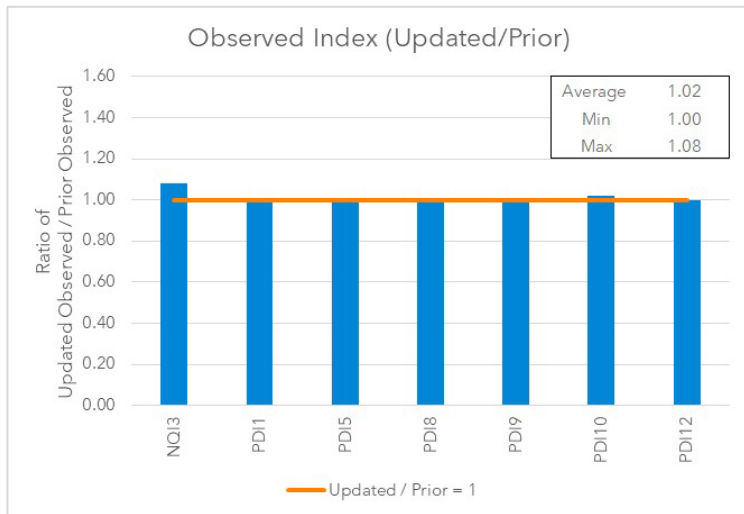


Key:

IQI8	Esophageal Resection Mortality Rate
IQI9	Pancreatic Resection Mortality Rate
IQI901	Pancreatic Resection Mortality Rate Stratum : Presence of Pancreatic Cancer
IQI902	Pancreatic Resection Mortality Rate Stratum: Absence of Pancreatic Cancer
IQI11	Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate
IQI111	IQI11 for Stratum: Open Repair of Ruptured AAA
IQI112	IQI11 for Stratum: Open Repair of Unruptured AAA
IQI113	IQI11 for Stratum: Endovascular Repair of Ruptured AAA
IQI114	IQI11 for Stratum: Endovascular Repair of Unruptured AAA
IQI12	Coronary Artery Bypass Graft (CABG) Mortality Rate
IQI15	Acute Myocardial Infarction (AMI) Mortality Rate
IQI16	Heart Failure Mortality Rate
IQI17	Acute Stroke Mortality Rate
IQI171	IQI 17 for Stratum: Subarachnoid Hemorrhage
IQI172	IQI 17 for Stratum: Intracerebral Hemorrhage
IQI173	IQI 17 for Stratum: Ischemic Stroke
IQI18	Gastrointestinal Hemorrhage Mortality Rate
IQI19	Hip Fracture Mortality Rate
IQI20	Pneumonia Mortality Rate
IQI21	Cesarean Delivery Rate, Uncomplicated
IQI22	Vaginal Birth After Cesarean (VBAC) Delivery Rate, Uncomplicated
IQI30	Percutaneous Coronary Intervention (PCI) Mortality Rate
IQI31	Carotid Endarterectomy Mortality Rate
IQI32	Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases
IQI33	Primary Cesarean Delivery Rate, Uncomplicated
IQI34	Vaginal Birth After Cesarean (VBAC) Rate

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Figure 4: Impact Indices (Updated / Prior) for Provider-Level Neonatal and Pediatric Quality Indicators' Observed Values for FFY 2021 among HIDI-reporting hospitals in MO, IL, and metro Kansas City, KS hospitals



Key:

NQI3	Neonatal Blood Stream Infection Rate
PDI1	Accidental Puncture or Laceration Rate
PDI5	Iatrogenic Pneumothorax Rate
PDI8	Perioperative Hemorrhage or Hematoma Rate
PDI9	Postoperative Respiratory Failure Rate
PDI10	Postoperative Sepsis Rate
PDI12	Central Venous Catheter-Related Blood Stream Infection Rate

Note: Expected rate indices and O/E ratios indices have not been calculated and are not displayed.