Release of AHRQ Quality Indicators[TM] Software for SAS Version 6.0, July 2017

The Agency for Healthcare Research and Quality (AHRQ) announces the release of the AHRQ Quality Indicators (QI) software for SAS version 6.0. This software applies to modules for the Prevention Quality Indicators (PQI), Inpatient Quality Indicators (IQI) and Patient Safety Indicators (PSI). The Pediatric Quality Indicators (PDI) module will be released in summer 2017.

All of the relevant AHRQ QI[TM] software and documentation regarding version 6.0 (SAS) can be found on the AHRQ QI Web site at http://www.qualityindicators.ahrq.gov.

The following sections summarize the major changes from Technical Specifications and QI Software version 6.0 to version 6.0 (SAS).

1.0 Fiscal Year 2016 Coding Updates

None of the coding changes implemented in the AHRQ QI software version 6.0 were based solely on fiscal year 2016 coding updates to the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM). The former diagnosis-related group (DRG) classification has been removed from the software, and it now includes only Medicare Severity Diagnosis Related Group (MS-DRG) coding. Seven new MS-DRGs have been added, along with their corresponding major diagnostic categories (MDCs): 268, 269, 270, 271, 272, 273, 274.

2.0 Specification Changes

The QI software version 6.0 implements some specification and programming changes that were developed through a detailed deliberation and assessment process with AHRQ personnel and other AHRQ stakeholders. These specification changes are detailed in the Log of Coding Updates and Revisions for each AHRQ QI module. See the specific changes at:

- For PQI: https://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V60/ChangeLog_PQI_v60.pdf
- For IQI: https://www.qualityindicators.ahrq.gov/Downloads/Modules/IQI/V60/ChangeLog_IQI_v60.pdf
- For PSI: https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V60/ChangeLog_PSI_v60.pdf

3.0 Limited License Edition of the 3M™ All Patient Refined-Diagnosis Related Group (APR-DRG) Grouper

The Limited License edition of the 3M™ APR-DRG Grouper remains at version 32.

4.0 Population Files and Risk Adjustment Coefficient Tables

The QI software version 6.0 (SAS) includes population estimates through 2015. The population data, which are based on the 2010 Census and intercensal estimates, are used to calculate the

denominators for the area-level QIs. For additional information on the population file, see the document titled *2015 Population File for Use With AHRQ Quality Indicators^{TM}*.

New risk adjustment models were derived for all indicators in QI software version 6.0 (SAS). These models were based on discharge data from an aggregation of the 2013 Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) from 40 States. The file for the development of the risk adjustment models included about 30 million discharges from community hospitals that were not rehabilitation or acute long-term care facilities. The coefficients from the models are embedded in the software, and the user does not need to manipulate them.

5.0   Version 6.0 Technical Specification Benchmark Data Tables

New benchmark data tables have been created for QI software version 6.0 (SAS). Benchmark data tables were based on the discharges from an aggregation of the 2013 HCUP SID from 40 States. Provider level PSI, PDI and IQI tables were based on 34 States. The resulting file included over 30 million discharges from community hospitals that were not rehabilitation or acute long-term care facilities. Users can refer to these tables to determine whether their rates approximate the population rate and how their case mix compares with the population rate.

The population rate refers to the overall rate for the reference population. If the population rate is higher than the expected rate, then the provider's case mix is less severe than the overall population. If the population rate is lower than the expected rate, then the provider's case mix is more severe than the overall population.

Version 6.0 Benchmark Data Tables can be found at the following Web sites:
- For PQIs, http://www.qualityindicators.ahrq.gov/modules/pqi_resources.aspx
- For PSIs, http://www.qualityindicators.ahrq.gov/modules/psi_resources.aspx
- For PDIs, http://www.qualityindicators.ahrq.gov/modules/pdi_resources.aspx
- For IQIs, http://www.qualityindicators.ahrq.gov/modules/iqi_resources.aspx

6.0   Reporting Rates for Specific Measures

The AHRQ QI SAS software only reports expected rates, risk-adjusted rates, and smoothed rates for measures that are risk adjusted. For measures that are not risk adjusted, only the numerators, denominators, and observed rates are reported.

7.0   Revisions to SAS Software Installation

The QI software version 6.0 (SAS) continues to require the SAS/STAT statistical software package that must be obtained separately. The software is applicable to both 32-bit and 64-bit applications. QI software version 5.0 (SAS) and subsequent versions no longer include the Prediction Module, which had required a separate installation step.

8.0 Revisions to Handling Information on Diagnoses Present on Admission

Prior to QI software version 5.0, the Prediction Module would compensate for missing information on diagnoses being present on admission (POA). In QI software version 5.0 (SAS), the Prediction Module was removed. In QI software version 5.0 (SAS) and subsequent versions, POA is handled as follows:

- If POA information is *available* on the input data, it is used to identify whether a diagnosis is present on admission using the following criteria:
  - o The diagnosis is identified as *present on admission* if either of the following conditions exist:
    - ▪ The diagnosis code is expected to have POA reported on the basis of ICD-9-CM coding guidelines. The associated POA value is either "Y" for present on admission or "W" for clinically undetermined.
    - ▪ The diagnosis code is exempt from POA reporting according to the ICD-9-CM coding guidelines.
  - o In all other cases, the diagnosis is identified as *not present on admission*. This includes cases in which POA information is unavailable (i.e., the data field on the record is blank).
- If POA information is *unavailable* on the input data, it is assumed that the diagnosis is not present on admission.

SAS code to adjust the QI indicator flags for POA information has been moved from the observed rate programs to the assignment program (*measures.sas).

In QI software version 5.0, the user had the option of indicating that POA should not be considered when running the software. In version 6.0, the option to ignore POA was removed. It is now assumed that all data include valid POA information.

9.0 New Risk Adjustment Models

In QI software version 6.0, risk adjustment models were updated for provider-level indicators by selecting new variables using a bootstrapped regression technique. Please see the Empirical Methods document for detailed information about risk adjustment.

10.0 New Prevention Quality Diabetes Composite (PQI 93)

AHRQ QI software version 6.0 includes a new diabetes composite Prevention Quality Diabetes Composite, PQI 93.

11.0 Retirement of PQI 13

The Prevention Quality Indicator 13, *Angina Without Procedure Admission Rate*, was retired and no longer appears in the AHRQ QI software.

12.0 Change in PSI-90 Composite Weighting Method

The method of calculating weights for the component indicators included in the PSI-90 composite was changed in QI software version 6.0. In past versions, weights were calculated on the basis of the numerator count (number of events) for each indicator in the reference population. Starting with version 6.0, weights are based on a combination of the numerator count and a measure of the excess harm experienced by people who have had the component PSI event. Details on the PSI-90 weighting method can be found in the AHRQ QI Empirical Methods document.

13.0 Enhancements and Fixes to Software Bugs Found in Version 6.0

These enhancements and fixes are detailed in the Log of Coding Updates and Revisions for each AHRQ QI module. See the specific changes at:

- For PQI: https://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V60/ChangeLog_PQI_v60.pdf

- For IQI: https://www.qualityindicators.ahrq.gov/Downloads/Modules/IQI/V60/ChangeLog_IQI_v60.pdf

- For PSI: https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V60/ChangeLog_PSI_v60.pdf

For questions, please contact qisupport@ahrq.hhs.gov or (301) 427-1949.