AHRQ QIs Fact Sheet:
FAQs on the SAS QI and WinQI v2019 ICD-10-CM/PCS Software

AHRQ QI Software Product Information

1. What year of data do the SAS QI and WinQI v2019 software support?

The v2019 software supports FY 2019 (October 2018 to September 2019) data.

2. Is the v2019 software backwards compatible?

Yes, the software is backwards compatible, meaning that it supports discharges classified under ICD-10-CM/PCS retroactively through October 2015.

Risk-Adjusted Software Information

3. Is the AHRQ QI software v2019 (SAS QI and WinQI) risk adjusted?

Yes, risk adjustment is now supported in the SAS QI and WinQI v2019 ICD-10-CM/PCS software.

Version v2019 Specific Coding and Indicator Updates

4. What coding updates are included in the SAS QI and WinQI v2018 software?

The v2019 software release includes coding updates to align with the latest ICD-10-CM/PCS coding guidance. For a complete list of the indicator level changes, refer to the Change Logs for each module:

- Prevention Quality Indicators (PQIs):
  https://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V2019/ChangeLog_PQI_v2019.pdf

- Inpatient Quality Indicators (IQIs):
  https://www.qualityindicators.ahrq.gov/Downloads/Modules/IQI/V2019/ChangeLog_IQI_v2019.pdf

- Patient Safety Indicators (PSIs):
  https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2019/ChangeLog_PSI_v2019.pdf

- Pediatric Quality Indicators (PDIs):
https://www.qualityindicators.ahrq.gov/Downloads/Modules/PDI/V2019/ChangeLog_PDI_v2019.pdf

6. What are some of the major updates in the SAS QI and WinQI v2019 software?

Some major updates that are included in the v2019 QI software include:

- The v2019 SAS QI and WinQI software is risk adjusted using 2016 HCUP State Inpatient Databases (SID) data.

- Implemented coding updates: (1) based on fiscal year 2019 ICD-10-CM/PCS, (2) is compatible with ICD-10-CM/PCS hospital data for FY16-FY19 and (3) coding changes impact all software modules.

- The Pediatric Quality Indicator NQI 02 (Neonatal Mortality Rate) is suppressed (see Question 9 for more information).

- The following 21 QIs will not be included in the AHRQ QI software v2019 ICD-10 CM/PCS. Users should note that v6.0 of the AHRQ QI software was the last ICD-9-CM release (risk adjusted) in which these indicators were included. v2018 of the AHRQ QI software was the last ICD-10-CM/PCS release (non-risk adjusted) in which these indicators were included.

  Prevention Quality Indicators
  - PQI 02 Perforated Appendix Admission Rate
  - PQI 09 Low Birth Weight Rate
  - PQI 10 Dehydration Admission Rate

  Inpatient Quality Indicators
  - IQI 01 Esophageal Resection Volume
  - IQI 02 Pancreatic Resection Volume
  - IQI 04 Abdominal Aortic Aneurysm (AAA) Repair Volume
  - IQI 05 Coronary Artery Bypass Graft (CABG) Volume
  - IQI 06 Percutaneous Coronary Intervention (PCI) Volume
  - IQI 07 Carotid Endarterectomy Volume
  - IQI 13 Craniotomy Mortality Rate
  - IQI 14 Hip Replacement Mortality Rate

  Patient Safety Indicators
  - PSI 16 Transfusion Reaction Count

Pediatric Quality Indicators
- NQI 01 Neonatal Iatrogenic Pneumothorax Rate
- PDI 02 Pressure Ulcer Rate
- PDI 03 Retained Surgical Item or Unretrieved Device Fragment Count
- PDI 06 RACHS-1 Pediatric Heart Surgery Mortality Rate
- PDI 07 RACHS-1 Pediatric Heart Surgery Volume
- PDI 11 Postoperative Wound Dehiscence Rate
- PDI 13 Transfusion Reaction Count
- PDI 17 Perforated Appendix Admission Rate
- PDI 19 Pediatric Safety for Selected Indicators Composite

For additional information on the rationale for retiring the indicators, view the indicator retirement announcement:
https://www.qualityindicators.ahrq.gov/News/Retirement%20Notice_v2019_Indicators.pdf

- PSI and IQI risk adjustment accounts for age, gender, clinical conditions, major diagnostic category (MDC), and diagnostic groups
  - Diagnostic groups include:
    - MS-DRGs (used in PSI)
    - APR-DRGs (used in IQI)
  - Computes discharge-level risk adjustment
  - Notable changes: Updated AGE_SEX risk adjustment coefficients that account for age, gender, MDCs, diagnostic groups, and clinical conditions
  - Risk adjustment no longer supports NO_AGE, NO_SEX, and NO_AGE_NO_SEX models used for stratification
  - Users must assign MDCs on their input file for risk adjustment

- PQIs and area-level PDIs risk adjustment accounts for age and gender, and an optional adjustment for poverty
  - Poverty is defined using a Census poverty definition
  - Computes county-level risk adjustment
  - Notable changes: The hospital-level PDIs are not risk-adjusted in v2019

7. What are some of the improvements made to the v2019 SAS QI software?

- Streamlined software processing by setting up all programs to execute within the control file instead of having to run all programs individually.
- Added technical assistance documentation on running the MS-DRG grouper for PSI and PDI in the release note that is included within the respective software packages.
- Renamed programs and control file variables to better align with what the module is measuring
  - For example, changed provider to hospital

- Consistently named, labeled, and commented output variables and files across modules
  - Improve labeling and comments around transfer-related variables and exclusions, and removed any unused transfer variables
- Significantly reduced program run times for the PDI and PSI modules.

8. What are some of the improvements made to the v2019 WinQI software?

- Software will notify users of software updates. By accepting v2019 update, it will automatically uninstall prior version and install v2019.
- With risk adjustment added, running a large input file (i.e., ≥3 million rows) can take a few hours to finish
- Option is added to WinQI to use the built-in 3M limited license APR-DRG grouper to compute APR-DRG codes
- Hospital- and area-level reports include observed, expected, reference population, risk-adjusted, and smoothed rates
- Improved automation features based on user feedback. Details can be found in the v2019 software instruction document. https://www.qualityindicators.ahrq.gov/Downloads/Software/WinQI/V2019/Software_Inst_WINQI_V2019_July_2019.pdf

9. Why is the Pediatric Quality Indicator NQI 02 (Neonatal Mortality Rate) suppressed in the v2019 software?

NQI 02 is suppressed in part because of discrepancies in how individual states define a live birth. For example, several states do not include qualifying language distinguishing a heartbeat from transient cardiac contractions and distinguishing respirations from fleeting respiratory efforts or gasps. Thus, in some cases, induced terminations of pregnancy are misclassified as live births because there were "transient cardiac contractions" and "fleeting respiratory efforts or gasps."

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. AHRQ is reviewing the specifications and the indicator will be updated or retired in a future version.

Interpreting AHRQ QI Results

10. How does AHRQ recommend that users interpret QI rates calculated with the v2019 software?

All measures that use the ICD-10 CM/PCS coding standards may see some variation in rates resulting from the transition in coding systems. AHRQ recommends using v2019 rates as a starting point for internal assessment and not for comparison across providers. Users may review discharge-level results to determine if evidence in the administrative record indicates occurrence of an adverse event. Further information about the ICD-10-CM/PCS transition and use of administrative data is available at: https://www.hcup-us.ahrq.gov/datainnovations/icd10_resources.jsp.

11. What do I need to know about the v2019 QI population file?

The updated QI population file contains intercensal and postcensal estimates of county-level populations from years 2000 – 2018 for use with area-level QIs. Population categories include single-sex year age group, sex, race and Hispanic origin.

Details about the population methodology at:

http://www.qualityindicators.ahrq.gov/Downloads/Software/SAS/V2019/AHRQ_QI_v2019_ICD10_Population_File.pdf

12. Can I use the v2019 QI population file with prior versions of SAS QI software?

The v2019 QI population file has the same structure as the previous population files. Therefore, it can be seamlessly used with all previous versions of SAS QI software.

Using AHRQ Quality Indicators

13. Is technical assistance available for use of the AHRQ QIs?

Yes. Users may submit questions or comments to QISupport@ahrq.hhs.gov.