Release of AHRQ Emergency Department Prevention Quality Indicators Beta Software for SAS and Windows, v2023

Prepared for:

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1.0   Introduction to Release Notes for v2023

Version 2023 of AHRQ's Quality Indicators (QI) includes the beta release of a new module: The Emergency Department Prevention Quality Indicators (ED PQI).

The ED PQI[1] include five measures:

- PQE 01 - Emergency Department (ED) Visits for Non-Traumatic Dental Conditions
- PQE 02 - ED Visits for Chronic Ambulatory Care Sensitive Conditions
- PQE 03 - ED Visits for Acute Ambulatory Care Sensitive Conditions
- PQE 04 - ED Visits for Asthma
- PQE 05 - ED Visits for Back Pain

Technical specifications are available at https://qualityindicators.ahrq.gov/measures/ED_PQI_TechSpec.

These QIs are area-level measures, similar to those included in the PQI and PDI modules. While those measures are rates of inpatient discharges, the ED PQI are rates of ED visits.

Like other area-level QIs, ED PQI are avoidable use measures. They identify conditions for which access to quality ambulatory care can reduce the likelihood of hospital care. Also, like other area-level QIs, the measure denominators are defined by membership in population. The denominators of the measures include a mix of adults and children, which varies depending on the measure.

The development of the ED PQI is detailed in the publication: *__Development and Validation of the Agency for Healthcare Research and Quality Measures of Potentially Preventable Emergency Department (ED) Visits: The ED Prevention Quality Indicators for General Health Conditions__*[2].

2.0   Data Inputs

The ED PQI numerators include treat-and-release cases from the ED and inpatient discharges admitted through the ED. The AHRQ ED PQI Beta Software v2023 uses the Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) and State Emergency Department Databases (SEDD) to compile reference (general or standard) population data. The reference population used for this software release includes visits contained in the SEDD and discharges admitted through the ED in the SID, which are the source of the benchmarks and parameters provided with the software.

PQE 05, Visits for Back Pain, differs from other ED PQI and area-level QIs in that the numerator is the count of patients with two related visits within the year. Thus, the numerator definition requires that a single patient's hospital encounters during the year be identified. The reference population for this

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[1]When referencing the Emergency Department Prevention Quality Indicators, the abbreviation ED PQI is used for the module or set of indicators, while the abbreviation PQE is used for individual indicators.

[2]Davies S, Schultz E, Raven M, Wang NE, Stocks CL, Delgado MK, McDonald KM. Development and Validation of the Agency for Healthcare Research and Quality Measures of Potentially Preventable Emergency Department (ED) Visits: The ED Prevention Quality Indicators for General Health Conditions. Health Serv Res. 2017 Oct;52(5):1667-1684. doi: 10.1111/1475-6773.12687. Epub 2017 Mar 30. PMID: 28369814; PMCID: PMC5583364. https://pubmed.ncbi.nlm.nih.gov/28369814/. Accessed August 28, 2023.

measure is from a subset of states with SEDD and SID data that permit linkages across visits by a single individual.

3.0   Beta Software

AHRQ ED PQI Beta Software v2023 is similar to that of the other area-level QIs – the set of SAS programs is the same, and similar options are offered for calculating and outputting observed and risk adjusted rates. Likewise, the Windows version of the ED PQI software functions the same way as the WinQI software.

Like PQIs and area-level PDIs, the SAS and Windows software provides risk adjustment for age and sex or age, sex, and poverty decile and smoothed rates, adjusted for reliability.

Both software applications differ from prior modules in that they use a combined input data set (ED visits and inpatient discharges admitted through the ED) and contain several additional variables that identify ED admissions and the relation of the hospital to patient's place of residence. PQE 05 requires additional variables to link visits for the same patient. Software output is similar to other area-level modules but is not racially stratified in the current release. Software instructions for the ED PQI module is included in the Quality Indicators Software Instructions and Data Dictionary, SAS® QI v2023, which is available at https://qualityindicators.ahrq.gov/Downloads/Software/SAS/V2023/Software_Inst_SASQI_v2023_September_2023.pdf. Software instructions and installation guide for the Windows version of the ED PQI software are included in AHRQ Quality Indicators Software Instructions, Windows® Application, which is available at https://qualityindicators.ahrq.gov/Downloads/Software/WinQI/V2023/Software_Inst_WINQI_V2023_August_2023.pdf.

For questions or comments, please contact the QI Technical Support Team at QISupport@ahrq.hhs.gov. Messages are responded to within three business days.

4.0   Population Files

The AHRQ ED PQI Beta Software v2023 reference population is from the year 2019, so that benchmarks and parameters are from a period representative of normal ED experience, rather than 2020, which is more recent but strongly affected by the public health emergency. The software uses SID and SEDD data to create risk adjustment models with parameter estimates based on national estimates that can be used at the local level and to establish national benchmarks. HCUP is a family of healthcare databases and related software tools and products developed through a Federal-State-industry partnership and sponsored by AHRQ. HCUP databases bring together the data collection efforts of State data organizations, hospital associations, private data organizations, and the Federal government to create a national information resource of encounter-level healthcare data. HCUP includes the largest collection of longitudinal hospital care data in the United States, with all-payer, encounter-level information beginning in 1988. These databases enable research on a broad range of health policy issues, including cost and quality of health services; medical practice patterns; access to healthcare programs; and outcomes of treatments at the national, State, and local market levels. In total, the HCUP SID encompasses about 97 percent of all annual inpatient discharges in the United States.

Population data for the reference population are from the same Census files as for PQIs and area-level PDIs (2000-2022_Population_Files_V2023.txt) and the same county-level population counts are used. Reference population data are provided for the denominator with the software by default; users may also

supply their own denominator data. Please see the details around the population file methodology at: http://www.qualityindicators.ahrq.gov/Downloads/Software/SAS/V2023/AHRQ_QI_v2023 _ICD10_Population_File.pdf.