ACO # 43 Prevention Quality Indicator (PQI): Ambulatory Sensitive Condition Acute Composite

Measure Information Form (MIF)

DATA SOURCE

- Medicare inpatient claims
- Medicare outpatient claims
- Medicare beneficiary enrollment data
- Accountable Care Organization (ACO) assignment file

MEASURE SET ID

ACO #43

EFFECTIVE DATE

01/01/2019

NQF ID

N/A

CARE SETTING

Hospitals

UNIT OF MEASUREMENT

Accountable Care Organization (ACO)

MEASUREMENT DURATION

Calendar Year

MEASUREMENT PERIOD

Calendar Year

MEASURE TYPE

Outcome

MEASURE SCORING

Risk adjusted rate of admissions for acute Prevention Quality Indicator (PQI) conditions

PAYER SOURCE

Medicare fee-for-service (FFS)

IMPROVEMENT NOTATION

Lower rate of admissions indicates better quality

MEASURE STEWARD

Agency for Healthcare Research and Quality (AHRQ) with modifications by Centers for Medicare and Medicaid Services (CMS).

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This Medicare ACO acute PQI composite measure is a modification of the general population acute PQI composite measure developed by AHRQ (AHRQ, 2016).

MEASURE DESCRIPTION

Risk adjusted rate of hospital discharges for acute PQI conditions with a principal diagnosis of dehydration, bacterial pneumonia, or urinary tract infection among ACO assigned Medicare fee-for-service (FFS) beneficiaries 18 years and older.

RATIONALE

Hospital admissions for dehydration, bacterial pneumonia, or urinary tract infection are a Prevention Quality Indicator (PQI) of interest to comprehensive health care delivery systems, including ACOs. These acute conditions can often be treated and addressed in an outpatient setting. Evidence suggests that these hospital admissions could potentially have been avoided through high quality outpatient care. Timely receipt of outpatient treatment and follow-up monitoring of treatment effectiveness may reduce the rate of occurrence for this event, and thus of hospital admissions.

This measure is intended to incentivize ACOs to provide high-quality, coordinated outpatient care that promotes smarter spending, healthier people, and higher care quality. Consistent with this mission, we envision that the measure will incentivize providers participating in ACOs to collaborate to provide the best system of clinical care and to partner with health and non-health related organizations in their communities, as appropriate, to improve the health of their patient population.

CLINICAL RECOMMENDATION STATEMENT

Research suggests that lower access to coordinated outpatient primary care is associated with higher rates of preventable hospital admissions (AHRQ, 2007; Bindman et al., 1995; Moy, Barrett, & Ho, 2011; Rosenthal, Harper, Shah, & Covinsky, 1997). High-quality outpatient care can lower the risk of hospitalizations for ambulatory care sensitive conditions, such as dehydration, bacterial pneumonia, and urinary tract infection. It is our vision that these measures will illuminate variation among ACOs in hospital admission rates and incentivize ACOs to develop efficient and coordinated care management strategies that anticipate and respond to patients' needs and preferences. This vision is consistent with ACOs' commitment to deliver patient-centered care that fulfills the goals of the Department of Health and Human Services' National Quality Strategy—improving population health, providing better care, and lowering healthcare costs (U.S. Department of Health and Human Services, 2010).

RELEASE NOTES / SUMMARY OF CHANGES

The MIF has been updated to reflect that the measure will be calculated using the most current available technical specifications posted on the AHRQ website for PQI #91 at the time of Measure Information Form publication (AHRQ PQI V2018, dated June 2018).

TECHNICAL SPECIFICATIONS

Target Population: ACO-assigned or aligned Medicare beneficiaries

DENOMINATOR

DENOMINATOR STATEMENT

Assigned/Aligned Medicare FFS beneficiaries aged 18 years and older.

DENOMINATOR DETAILS

The targeted patient population is Medicare FFS beneficiaries aged 18 years and older assigned to the ACO during the measurement period. To be included in the cohort, patients must be enrolled full-time in Part A during the measurement period, and enrolled full-time in both Part A and B during the year prior to the measurement period.

DENOMINATOR EXCEPTIONS AND EXCLUSIONS

1. Beneficiaries that do not have 12 months continuous enrollment in Medicare Part A during the measurement year. Beneficiaries with continuous enrollment until death are included for the portion of the measurement period that they are alive.
    Rationale: We exclude these patients to ensure full data availability for outcome assessment (Part A during the measurement year). Beneficiaries with continuous enrollment who become deceased during the year are included only for the time they are alive.

2. Beneficiaries that do not have 12 months continuous enrollment in Medicare Part A and B during the year prior to the measurement year.
Rationale: This data is needed to attribute chronic conditions used for risk adjustment to assigned beneficiaries.

DENOMINATOR EXCEPTIONS AND EXCLUSIONS DETAILS

1. Beneficiaries without continuous enrollment in Medicare Part A for the duration of the measurement period (or until death) are excluded. Lack of continuous enrollment in Medicare Part A is determined by patient enrollment status in a Medicare Denominator File. The enrollment indicators must be appropriately marked during the measurement year.

2. Beneficiaries without continuous enrollment in Medicare Part A and B during the year prior to the measurement year. Lack of continuous enrollment in Medicare Part A and B is determined by patient enrollment status in a Medicare Denominator File. The enrollment indicators must be appropriately marked during the year prior to the measurement year.

NUMERATOR

NUMERATOR STATEMENT

Number of discharges per 100 person years from an acute care hospital or critical access hospital with a principal diagnosis of dehydration, bacterial pneumonia, or urinary tract infection for Medicare beneficiaries in the denominator population for this measure.

NUMERATOR DETAILS

The ICD-10 codes used to identify hospital discharges with any of the three acute conditions that make up this composite Medicare ACO PQI quality measure are as follows:

▪ An ICD-10 principal diagnosis code that indicates dehydration; or any secondary ICD-10 diagnosis codes for dehydration and a principal ICD-10 diagnosis code for hyper-osmolarity and/or hypernatremia, gastroenteritis, or acute kidney injury (Please see Table 1 Value Set [Reference AHRQ PQI #10]), or

▪ An ICD-10 principal diagnosis code for bacterial pneumonia (Listed in Table 1 Value Set [Reference AHRQ PQI #11]), or

▪ An ICD-10 principal diagnosis code for urinary tract infection (Listed in Table 1 Value Set [Reference AHRQ PQI #12])

These ICD-10 codes are used with Medicare Part A inpatient claims for the ACO's assigned beneficiaries in the measurement year to identify hospital discharges that are included in the numerator. Discharges that meet the inclusion and exclusion criteria for the numerator in more than one of the above PQIs are counted only once.

NUMERATOR EXCEPTIONS AND EXCLUSIONS

1. Transfers from a hospital, a Skilled Nursing Facility (SNF) or Intermediate Care Facility (ICF), or another health care facility are excluded from the numerator.

2. Discharges are excluded from the numerator if the admission is associated with a diagnosis of chronic renal failure (for dehydration), sickle cell anemia or HB-S disease or immunocompromised state (for bacterial pneumonia), or kidney/urinary tract disorder or immunocompromised state (for urinary tract infection) (Please see Table 2 Value Set).

NUMERATOR EXCEPTIONS AND EXCLUSIONS DETAILS

1. The AHRQ PQI SAS software excludes admissions that are transfers to a hospital, SNF or ICF, or another healthcare facility, identifying these transfers using HCUP variables SID ASOURCE and POINTOFORIGINUB04 codes. The Medicare claims data available from the IDR does not include these codes. As a result, the Medicare ACO PQIs use the Medicare claims variable "Source of Admission (SRC_ADMS)" to identify transfers. For the Medicare ACO PQIs patients were excluded with an SCR_ADMS value of 4 (transfer from hospital), 5 (transfer from SNF), or 6 (transfer from another health care facility). The Medicare ACO PQI software also excludes beneficiaries with two Part A Inpatient claims admissions on the same day at two different facilities.

2. Discharge is excluded from the numerator if the admission is associated with any of the ICD-10 diagnosis codes as listed in the Table 2 Value Set.

STRATIFICATION OR RISK ADJUSTMENT

STRATIFICATION

Not applicable. This measure is not stratified.

RISK ADJUSTMENT

We use a two-level hierarchical statistical regression model to estimate risk-adjusted rate of admissions per 100 person years for the acute PQI composite. This approach accounts for the clustering of patients within ACOs and variation in sample size.

Our approach to risk adjustment is tailored to and appropriate for a publicly reported outcome measure, as articulated in the American Heart Association (AHA) Scientific Statement, "Standards for Statistical Models Used for Public Reporting of Health Outcomes" (Krumholz et al., 2006; Normand & Shahian, 2007). The risk-standardization model includes sex, age, age as a quadratic functional form, relevant CMS Hierarchical Condition Categories (HCC) indicators that contribute to the risk of hospitalization, the number of condition categories, and a quadratic of the sum of the number of condition categories. We define clinical variables using ICD-10 diagnosis codes. Condition categories utilized in the acute PQI composite are listed in the Table 3 Value Set.

SAMPLING

This is not based on a sample or survey.

CALCULATION ALGORITHM

The risk-adjusted rate of admissions for each ACO is calculated as the number of "predicted" to the number of "expected" admissions per 100 person years, multiplied by the national rate of admissions for these conditions among all ACO beneficiaries.

1. Two-level, hierarchical, statistical models, accounting for clustering of patients within ACOs and patient level characteristics, are estimated. The measure uses a negative binomial model since our outcome is a count of the number of admissions for the three acute conditions in the PQI composite. The first level of the model adjusts for patient factors. The relationship between patient risk factors and the outcome of admission is determined based on the overall sample of patients within ACOs. The second level of the model estimates a random-intercept term that reflects the ACO's contribution to admission risk, based on its actual PQI composite admission rate, the performance of other providers with similar case mix, and its sample size. The ACO-specific random intercept is used in the numerator calculation to derive an ACO-specific number of "predicted" admissions among eligible beneficiaries.

2. The expected number of admissions is calculated based on the ACO's case mix and national average intercept.

3. The predicted number of admissions is calculated based on the ACO's case mix and the estimated ACO-specific intercept term.

4. The measure score is the ratio of predicted admissions over the expected admissions, multiplied by the crude national admission rate for these conditions among all ACO beneficiaries. The predicted to expected ratio of admissions is analogous to an observed/expected ratio, but the numerator accounts for clustering and sample-size variation.

5. We multiply the ratio for each ACO by a constant, the crude national rate of admissions per 100 person years for hospitalization.

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