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Health Services Cost Review Commission

4160 Patterson Avenue, Baltimore, Maryland 21215
Phone: 410-764-2605 · Fax: 410-358-6217
Toll Free: 1-888-287-3229
hscrc.maryland.gov

To: Hospital CFOs
Cc: Case Mix Liaisons, Hospital Quality Contacts
From: Laura Mandel, MPH, Chief – Population Health
Date: May 10, 2019
Re: Updates to PAU for RY2020 and RY2021

This memo summarizes changes to the Potentially Avoidable Utilization Savings Program measurement that will potentially impact hospital rates in RY2020 and RY2021. The potential changes detailed in this memo are subject to Commission approval in June of 2019 (RY 2020) and 2020 (RY2021).

RY2020

The RY2020 statewide PAU reduction calculation has been incorporated into the RY2020 Update Factor Recommendation rather than included in a separate PAU Policy. Due to this change, draft and final PAU revenue adjustments by hospital will be posted on the HSCRC website (<https://hscrc.maryland.gov/Pages/PAU-Savings.aspx>) as they are available, rather than within a formal policy recommendation.

While the final RY2020 Update Factor Recommendation has not yet been approved, staff wants to provide hospitals with the proposed measure and reporting changes, which will be applied to the calendar year 2018 measurement period. The proposed changes include:

1) Changing from receiving readmission to sending readmission

The PAU Savings methodology measures revenue associated with 30-day, all-cause readmissions¹ and ambulatory-care sensitive condition admissions (as measured by AHRQ Prevention Quality Indicators (PQIs)). In prior years, readmissions were assigned to the hospital that received the readmission (i.e., the hospital where the

¹ 30-day, all-cause, all-payer, all-hospital readmissions for inpatient stays and observation stays greater than 23 hours, excluding planned admissions, same and next day transfers, oncology cases, and newborns.

readmission occurred). In response to Commissioner and stakeholder feedback, staff will change the methodology to assign readmissions to the sending or index hospital for the RY2020 adjustment. To calculate the readmission revenue associated with the sending hospital, staff vetted with Performance Measurement Workgroup applying the average cost of an intra-hospital readmission (i.e., cost of readmissions that occurred to and from the same hospital) to the total number of sending readmissions assigned to each hospital. Applying this average cost avoids holding sending hospitals accountable for the cost structure at a receiving hospital.

2) PQI measurement update

HSCRC will use AHRQ PQI version 2018 for Calendar Year 2018 performance (See Appendix A for details on the PQI measures).² As with previous PAU Savings policy, PQI revenue will exclude revenue flagged as both a PQI and a readmission. Revenue flagged as both PQI and readmission will be included in the readmissions revenue.

3) Impact on PAU Reporting: Summary and Detail-Level Files

HSCRC has released revised RY2020 summary files for calendar year 2018 that include the changes to readmissions and provide the percent of revenue associated with PAU. The old RY2020 reports are also still available for reference. In terms of case-level files, the HSCRC will not release new PAU Detail-level files to reflect the change in accounting of readmissions; instead hospitals can use their existing PAU detail level files for PQIs and Readmission Reduction Incentive Program (RRIP) files to monitor sending readmissions. See Appendix B for PAU Detail-level files data dictionary.

RY2021

For RY2021, HSCRC staff intends to recommend a shift to per capita PAU measurement (instead of revenue-based measurement) and to add avoidable pediatric admissions as measured by the AHRQ pediatric quality indicators (PDIs) (See Appendix C). While staff had also intended to include PQI 9 Low Birthweight newborns, recent communications from AHRQ announced that this PQI would be discontinued in PQI Version 2019.³ As part of the change to per capita, CRISP will be rolling out a Tableau dashboard to help hospitals monitor PQIs and PDIs. The reports will be undergoing user testing over the next few months, but may be updated as stakeholders, including the Performance Measurement Work Group, evaluate the use of a per capita PAU measure.

² Starting in 2018, staff will begin to phase out the use of PQI02 perforated appendix. PQI02 data after October 2018 will NOT be included in determining performance and revenue adjustments due to AHRQ logic issues after this date.

³ AHRQ email to users on May 9, 2019 indicated that the following PQI/PDIs will be retired in the 2019 PQI/PDI versions: PQI 09 Low Birthweight newborns, PQI 02 Perforated appendix, PQI 10 Dehydration Admission, PDI 17 Perforated Appendix Admission

1) Measurement

Based on discussions with Performance Measurement Work Group, HSCRC plans to propose a methodology for attributing PQIs to hospitals that incorporates the Medicare Performance Adjustment (MPA) attribution process for applicable Medicare beneficiaries, followed by a geographic attribution approach for other patients. Currently, the staff and stakeholders have not made a decision on whether to measure readmissions under a per capita model, but starting in 2019 PQI admissions will be flagged prior to readmissions (i.e., if both a PQI and a readmission, then will count as PQI). A detailed memo on the overall PQI per capita attribution and readmission measurement will be available as details are vetted by stakeholders and moved into production for CY 2019 performance measurement. Per capita PQI results will be available through the Tableau reports in the future, after the CY2019 revised MPA attribution is implemented, which should be completed in summer 2019. With the move to per capita PQI measurement, PAU detail files should be used for case validation only, as the per capita reports will indicate performance results. Please see end of the memo for anticipated timelines.

2) PAU Reporting: Hospital vs Per Capita Reports

HSCRC plans on continuing to produce hospital specific reports for PAU that provide a summary of PQIs and sending readmissions attributed to each hospital. This will be similar to prior years reporting and is intended to ensure hospitals can monitor and validate their results and perform analyses for patients seen at their hospital. HSCRC will also produce per capita reports to determine performance on PQIs in CY2019, and these should be used to assess performance for the PAU savings policy, since some PQIs attributed to a hospital may have been seen at a different hospital. Similarly, starting in CY2019, pediatric quality indicator variables will be included on the summary and detail-level files for monitoring and validation purposes, but users should refer to per capita reports for hospital performance. In addition, staff can work with hospitals to provide additional drill downs on types of patients with PQI admissions from attributed regions (i.e., type of PQI admissions, patient demographics) since case-level data on patients seen at other hospitals may not be able to be shared on an all-payer basis.

3) Anticipated initial report roll-out

Due to Medicare data and processing delays, HSCRC anticipates that PQI Tableau reports will be available by August 2019. HSCRC will work with CRISP and users to test the reports prior to release. After the initial release, HSCRC anticipates that reports will follow the ongoing reporting timeline detailed below.

4) Anticipated ongoing reporting timeline

HSCRC anticipates that PQI performance data will be available in a step-wise approach throughout the year. HSCRC intends to provide historical per capita data for CY2018 (MPA attribution prior to 2018 is not available). It is important to note that Medicare claims data lags behind case-mix data availability due to the fact that Medicare claims data relies on actual payment for completion, rather than hospital billing.

1. **Hospital PAU Data:** As noted above, HSCRC anticipates continuing to produce monthly PAU summary and detail-level files as soon as preliminary case-mix data becomes available for hospital monitoring and validation. Case-mix data is typically available with a two to three month delay from the end of the performance month (i.e., discharge month) to account for hospital submission and data processing.
2. **Per Capita Summary Level Reports:** HSCRC anticipates that preliminary Medicare claims data will be available for attribution and linking with HSCRC case-mix data approximately four to five months following the end of the performance month. HSCRC plans to use this preliminary data to provide a summary-level performance updates to hospitals and any additional geographical drill downs on the types of patients with avoidable admissions.
3. **Per Capita Patient-Level Data:** Staff expects detailed Medicare patient-level information from Medicare payment claims data to be available in MADE reporting approximately six months following the end of the performance month. Again detail level data on non-Medicare patients seen at other hospitals cannot be shared, but staff can work with hospitals over time to develop drill down reports on the types of patients with avoidable admissions.

Overview of Ongoing Data/Reporting Timeline

Time since encounter	2-3 months	3-4 months	4-5 months
	<p>PAU detail level files available</p> <p>Creates PQI flags, enables case validation and populates other CRISP reports</p>	<p>PQI per capita performance available</p> <p>Matches detail-level PQI files with Medicare CCLF files to perform PQI per capita attribution</p>	<p>Medicare patient-level data available</p> <p>Populates MPA reporting tools and MADE tool with patient-level data for attributed beneficiaries</p>

If you have any questions, please email hscrc.quality@maryland.gov or call Laura Mandel (410-764-2594).

Appendix A. Prevention Quality Indicator (PQI) Measures

Measure	Description
PQI 01 Short-term Diabetes Complications (numerator)	Admissions for a principal diagnosis of diabetes with short-term complications (ketoacidosis, hyperosmolarity, or coma), ages 18 years and older.
PQI 02 Perforated Appendix (numerator)	<i>HSCRC Phasing out in CY2018 and AHRQ retiring in CY2019.</i> Discharges with a diagnosis of perforation or abscesses of the appendix, ages 18 years and older.
PQI 03 Long-term Diabetes Complications (numerator)	Admissions for a principal diagnosis of diabetes with long-term complications (renal, eye, neurological, circulatory, or complications not otherwise specified), ages 18 years and older.
PQI 05 Chronic Obstructive Pulmonary Disease Older adults (numerator)	Admissions with a principal diagnosis of chronic obstructive pulmonary disease (COPD) or asthma, ages 40 years and older.
PQI 07 Hypertension (numerator)	Admissions with a principal diagnosis of hypertension, ages 18 years and older. Excludes kidney disease combined with dialysis access procedure admissions, cardiac procedure admissions.
PQI 08 Heart Failure (numerator)	Admissions with a principal diagnosis of heart failure per, ages 18 years and older. Excludes cardiac procedure admissions.
PQI 10 Dehydration (numerator)	<i>AHRQ retiring in CY2019.</i> Admissions with a principal diagnosis of dehydration, ages 18 years and older.
PQI 11 Community-Acquired Pneumonia (numerator)	Discharges with a principal diagnosis of community acquired bacterial pneumonia, age 18 or older. Excludes sickle cell or hemoglobin-S admissions, other indications of immunocompromised state admissions.
PQI 12 Urinary Tract Infection (numerator)	Admissions with a principal diagnosis of urinary tract infection, ages 18 years and older. Excludes kidney or urinary tract disorder admissions, other indications of immunocompromised state admissions.
PQI 14 Uncontrolled Diabetes (numerator)	Admissions for a principal diagnosis of diabetes without mention of short-term (ketoacidosis, hyperosmolarity, or coma) or long-term (renal, eye, neurological, circulatory, or other unspecified) complications, ages 18 years and older.
PQI 15 Asthma Younger Adults (numerator)	Admissions for a principal diagnosis of asthma, ages 18 to 39 years. Excludes admissions with an indication of cystic fibrosis or anomalies of the respiratory system.
PQI 16 Lower Extremity Amputation among Patients with Diabetes (numerator)	Admissions for any-listed diagnosis of diabetes and any-listed procedure of lower-extremity amputation (except toe amputations), ages 18 years and older. Excludes any-listed diagnosis of traumatic lower-extremity amputation admissions.
PQI 90 Prevention Quality Overall Composite	Prevention Quality Indicators (PQI) overall composite, ages 18 years and older. Includes admissions for one of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, hypertension, heart failure, dehydration, bacterial pneumonia, or urinary tract infection.
PQI 91 Prevention Quality Acute Composite	Prevention Quality Indicators (PQI) composite of acute conditions, ages 18 years and older. Includes admissions with a principal diagnosis of one of the following conditions: dehydration, bacterial pneumonia, or urinary tract infection.
PQI 92 Prevention Quality Chronic Composite	Prevention Quality Indicators (PQI) composite of chronic conditions, ages 18 years and older. Includes admissions for one of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, hypertension, or heart failure without a cardiac procedure.
PQI 93 Prevention Quality Diabetes Composite	Prevention Quality Indicators (PQI) composite of diabetes admissions, ages 18 years and older. Includes admissions for one of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation.

All PQIs exclude Obstetric admissions (except for PQI 09) and transfers from a different hospital, another health care facility, skilled nursing facility, or intermediate care facility. See https://www.qualityindicators.ahrq.gov/Modules/PQI_TechSpec_ICD10_v2018.aspx for more detailed specifications

Appendix B. PAU Detail Level Files Data Dictionary

VARIABLE NAME	VARIABLE DESCRIPTION	VARIABLE VALUES
Hospital ID	Hospital ID Number	Number
Hospital Name	Hospital Name	Nominal
Medical Record Number	Medical record number	Number
Admission Date	Date of Admission	Date
Discharge Date	Date of Discharge	Date
Patient Account Number	Patient Account Number	Number
Data Type	Inpatient or Outpatient	IP= Inpatient, OP= Outpatient (OP indicates Observation stays greater than 23 hours)
Age (years)	Patient Years of Age at the time of Discharge	Number
Sex	Patient Gender	1 = Male, 2 = Female, 9 = Unknown
Zip Code	Patient Residential Zip Code	5 Digit Number
County	Patient Residential County	1=ALLEGANY 2=ANNE ARUNDEL 3=BALTIMORE 4=CALVERT 5=CAROLINE 6=CARROLL 7=CECIL 8=CHARLES 9=DORCHESTER 10=FREDERICK 11=GARRETT 12=HARFORD 13=HOWARD 14=KENT 15=MONTGOMERY 16=Prince Georges 17=Queen Annes 18=Saint Marys 19=SOMERSET 20=TALBOT 21=WASHINGTON 22=WICOMICO 23=WORCESTER 29=UNIDENTIFIED MARYLAND 30=BALTIMORE CITY 39=DELAWARE 49=PENNSYLVANIA 59=WEST VIRGINIA 69=VIRGINIA 79=DISTRICT OF COLUMBIA 89=FOREIGN 90=OTHER US TERRITORY 98=OTHER STATES 99=UNIDENTIFIED
County Name	County Name	Nominal
Primary Payer	Primary Payer	01 = MEDICARE, 02 = MEDICAID, 03 = TITLE V, 04 = BLUE CROSS, 05 = COMMERCIAL INSURANCE, 06 = OTHER GOVERNMENT PROGRAM, 07 = WORKMEN'S COMPENSATION, 08 = SELF PAY, 09 = CHARITY, 10 = OTHER, 11 = DONOR, 12 = HMO, 14 = MEDICAID HMO, 15 = MEDICARE HMO, 16 = BLUE CROSS-NATIONAL CAPITAL AREA, 17 = BLUE CROSS -OTHER STATE, 18=International Insurance, 99 = UNKNOWN
Discharge APR DRG	Discharge APR DRG version	3 digit code
Severity Level	Level of Severity from current admission	1 digit code
Product line	APR DRG Product Line	See PRODUCT LINE table below
Product category	APR DRG Product Category	Nominal Product line, however readmissions and PQIs trump the product line as their own product category
Same and next day transfer	Same day and next day transfer - not eligible for a readmission.	1= yes, 0=no
Interval Days	Interval Days = Next admission date - discharge date.	Number (Equation Difference)
Patient Died	Patient died - not eligible for a readmission.	1=yes, 0=no
Inpatient Charges + Observation Charges >23 hours	Total Inpatient Charges or Total Observation Charges for stays >23 hours. Used for calculating the \$ for readmissions and PQIs.	Dollar Value

VARIABLE NAME	VARIABLE DESCRIPTION	VARIABLE VALUES
Eligible for a Readmission - Denominator	Any discharge eligible for a readmission	1 = yes, 0 = no (i.e., patient died or was transferred; see exclusions for other types of discharges that are not eligible)
Readmission within 30 days	Readmissions within 30 days (with planned admissions excluded). This is similar to RRIP readmission flag	1 = yes, 0 = no, [" "] = not eligible to be a readmission
READMISSION DATA TYPE	Indicates if subsequent admission is Inpatient or Outpatient (Note: not restricted to 30 days).	IP= Inpatient, OP= Outpatient (OP indicates Observation stays greater than 23 hours)
Readmission was to the same hospital	Index Hospital View-Patient with an eligible Readmission at the same hospital as Index Admission	1=yes, [" "] =no or not applicable
Readmission was to the different hospital	Index Hospital View - Patient with an eligible Readmission at a different hospital from Index Admission	1=yes, [" "] =no or not applicable
Other Exclusions	Discharges in not eligible for readmissions based on other criteria	1= yes, 0=no
Oncology DRG	Excluded due to Oncology DRG	1=yes, [" "] =no or not applicable
Actual PAU Readmission case	Indicates if current case is a readmission (IP and obs>-24 hours)	1=yes, [" "] =no or not applicable
Actual PAU Readmission Charges	Charges associated with a PAU readmission (IP and obs>-24 hours)	dollar value
Index Admission was to the same hospital	Admission prior to readmission (index) was at same hospital.	1=yes, [" "] =no or not applicable
Index Admission was to the different hospital	Admission prior to readmission (index) was at different hospital.	1=yes, [" "] =no or not applicable
Actual PAU PQI case	No longer used for analysis as of RY2021. Indicates an admission is a PQI (de-duplicated from readmissions)	1=yes, [" "] =no or not applicable
Actual PAU PQI Cost	No longer used for analysis as of RY2021. Charges associated with a PAU PQI	dollar value
Total PAU	Indicates whether a admission was either PAU readmission or PAU PQI	1=yes, [" "] =no or not applicable
Total PAU Cost	Charges associated with either PAU readmission or PAU PQI	dollar value
Eligible to have a PQI	Any discharge eligible for a PQI	1 = yes, 0 = no (discharges not eligible are those < 18 years of age or missing data)
PQI Present	No longer used for analysis as of RY2021. Flag indicates whether PQI present, regardless of whether PQI was also readmission	1 = yes, 0 = no, [" "] = not eligible to have a PQI
PQI 01 Short-term Diabetes Complications (numerator)	Case had principal diagnosis of short-term diabetes complications (numerator of PQI logic)	1=yes, [" "] = No or not eligible
PQI 02 Perforated Appendix (numerator)	<i>AHRQ retiring in CY2019, will not be present in future data.</i> Case had a perforated appendix (numerator of PQI logic)	1=yes, [" "] = No or not eligible
PQI 03 Long-term Diabetes Complications (numerator)	Case had principal diagnosis of long-term diabetes complications (numerator of PQI logic)	1=yes, [" "] = No or not eligible
PQI 05 Chronic Obstructive Pulmonary Disease Older adults	Case had principal diagnosis of chronic obstructive pulmonary disease or asthma in older adults (numerator)	1=yes, [" "] = No or not eligible

VARIABLE NAME	VARIABLE DESCRIPTION	VARIABLE VALUES
(numerator)		
PQI 07 Hypertension (numerator)	Case had principal diagnosis of hypertension (numerator)	1=yes, [" "] = No or not eligible
PQI 08 Heart Failure (numerator)	Case had principal diagnosis of heart failure (numerator)	1=yes, [" "] = No or not eligible
PQI 10 Dehydration (numerator)	<i>AHRQ retiring in CY2019, will not be present in future data.</i> Case had principal diagnosis of dehydration (numerator).	1=yes, [" "] = No or not eligible
PQI 11 Community-Acquired Pneumonia (numerator)	Case had principal diagnosis of Community-Acquired Pneumonia (numerator)	1=yes, [" "] = No or not eligible
PQI 12 Urinary Tract Infection (numerator)	Case had principal diagnosis of urinary tract infection (numerator)	1=yes, [" "] = No or not eligible
PQI 14 Uncontrolled Diabetes (numerator)	Case had principal diagnosis of uncontrolled diabetes (numerator)	1=yes, [" "] = No or not eligible
PQI 15 Asthma Younger Adults (numerator)	Case had principal diagnosis of adult asthma (numerator)	1=yes, [" "] = No or not eligible
PQI 16 Lower Extremity Amputation among Patients with Diabetes (numerator)	Case had lower extremity amputation with diabetes (numerator)	1=yes, [" "] = No or not eligible
PQI 90 Prevention Quality Overall Composite	Case had at least 1 PQI flag (any PQIs among 1,3,5,7,8,10,11,12,14-16)	1=yes, [" "] = No or not eligible
PQI 91 Prevention Quality Acute Composite	Case had at least 1 PQI flag for acute conditions (any PQIs 10,11,12)	1=yes, [" "] = No or not eligible
PQI 92 Prevention Quality Chronic Composite	Case had at least 1 PQI flag for chronic conditions (any PQI among 1,3,5,7,8,14-16)	1=yes, [" "] = No or not eligible
PQI 93 Prevention Quality Diabetes Composite	Case had at least 1 PQI flag for diabetes (any PQI among 1,3,14,16)	1=yes, [" "] = No or not eligible
PQI 09 Low Birth Weight Rate (Numerator)	<i>AHRQ retiring in CY2019, will not be present in future data.</i> Newborn weighed <2500 grams	1=yes, [" "] = No or not eligible
PDI 14 Asthma Admission Rate (Numerator)	Case had principal diagnosis of asthma (numerator)	1=yes, [" "] = No or not eligible
PDI 15 Diabetes Short-Term Complications Admission Rate (Numerator)	Case had principal diagnosis of short-term diabetes complications (numerator)	1=yes, [" "] = No or not eligible
PDI 16 Gastroenteritis Admission Rate (Numerator)	Case had principal diagnosis of gastroenteritis or principal diagnosis of dehydration with secondary diagnosis of gastroenteritis (numerator)	1=yes, [" "] = No or not eligible
PDI 17 Perforated Appendix Admission Rate (Numerator)	<i>AHRQ retiring in CY2019, will not be present in future data.</i> Case had a perforated appendix (numerator)	1=yes, [" "] = No or not eligible
PDI 18 Urinary Tract Infection Admission Rate (Numerator)	Case had principal diagnosis of urinary tract infection (numerator)	1=yes, [" "] = No or not eligible

VARIABLE NAME	VARIABLE DESCRIPTION	VARIABLE VALUES
ICD version flag	ICD Version used in Data Set	
Previous Hospital ID		
Previous Hospital Name		
non-PQI Readmission	Readmission within 30 days that are not also a PQI	1=yes, [" "] = No or not eligible

Appendix C. Additional Avoidable Admission Measures

Measure	Description
PDI 14 Asthma Admission rate (numerator only)	Admissions with a principal diagnosis of asthma, ages 2 through 17 years. Excludes cases with a diagnosis code for cystic fibrosis and anomalies of the respiratory system.
PDI 15 Diabetes Short-term complications admission rate (numerator only)	Admissions for a principal diagnosis of diabetes with short-term complications (ketoacidosis, hyperosmolarity, or coma), ages 6 through 17 years.
PDI 16 Gastroenteritis admission rate (numerator only)	Discharges with a principal diagnosis of gastroenteritis, or with a principal diagnosis of dehydration with a secondary diagnosis of gastroenteritis, age 3 months to 17 years. Excludes cases with gastrointestinal abnormalities or bacterial gastroenteritis.
PDI 18 Urinary Tract Infection Admission rate (numerator only)	Admissions with a principal diagnosis of urinary tract infection, ages 3 months to 17 years. Excludes cases with kidney or urinary tract disorders, cases with a high- or intermediate risk immunocompromised state (including hepatic failure and transplants).

All PQIs and PDIs exclude Obstetric admissions and transfers from a different hospital, another health care facility, skilled nursing facility, or intermediate care facility

See https://www.qualityindicators.ahrq.gov/Modules/PDI_TechSpec_ICD10_v2018.aspx for more detailed specifications on PDIs.