Potentially Avoidable Utilization (PAU) Reporting User Guide for Rate Year 2025

Last updated 7/14/2023

Potentially Avoidable Utilization Program

Background

This user guide defines the methodology and clarifies how to use the various PAU reporting outputs. The Health Services Cost Review Commission (HSCRC) writes the Potentially Avoidable Utilization (PAU) Savings policy and methodology behind these reports, which CRISP hosts on the CRS portal on the HSCRC's behalf. More information on the policy and methodology can be found here.

The reporting outputs discussed in this user guide are the excel outputs of the *PAU Details Report, PAU Summary Report*, and *PAU Savings Report* and the Tableau output of the *Avoidable Admissions Tableau Report*. These reports will be covered in the order in which they are produced.

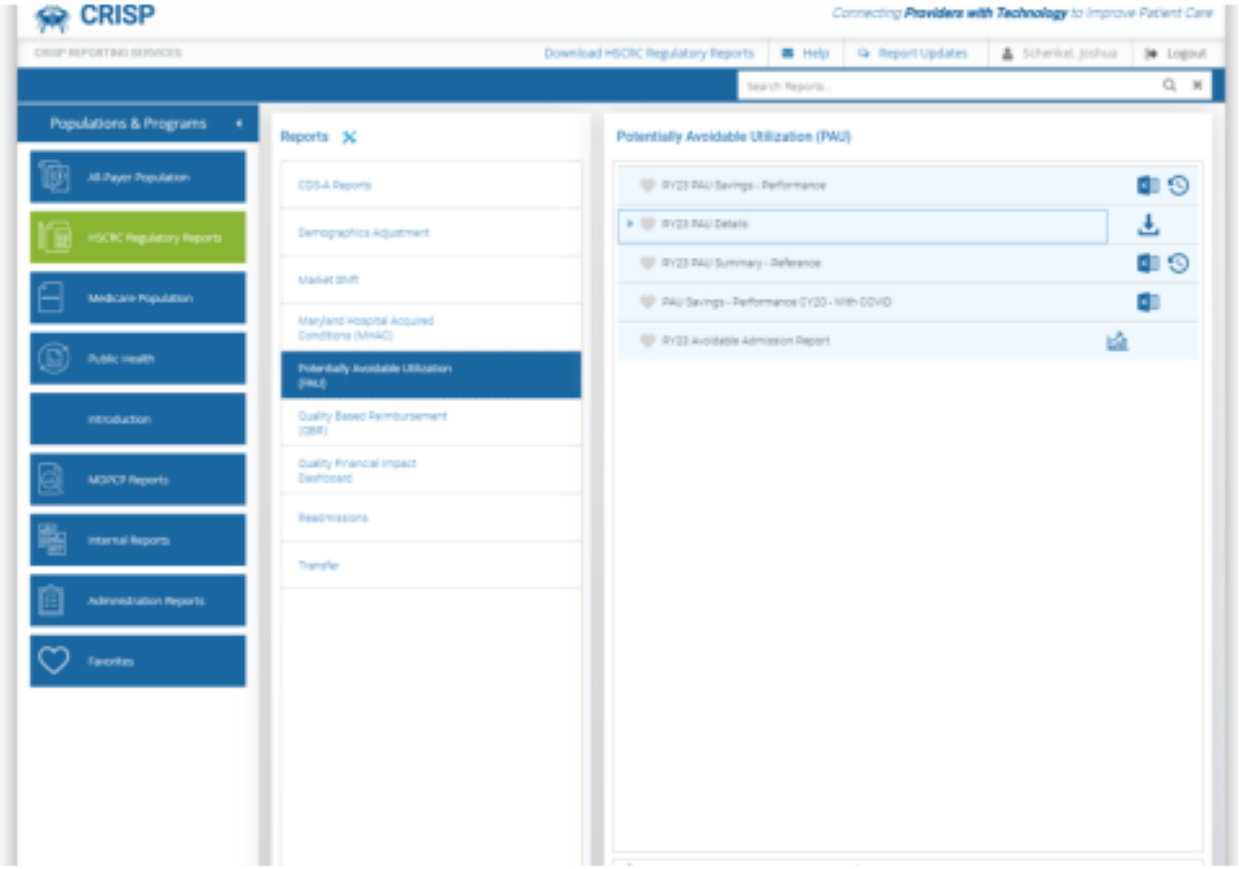
The PAU policy prospectively reduces Global Budget Revenues (GBRs) in anticipation of reductions in avoidable utilization. Potentially avoidable utilization is measured within the PAU policy through Sending Readmissions, Prevention Quality Indications (PQIs), and Pediatric Quality Indicators (PDIs). PQIs and PDIs are admissions for ambulatory care sensitive admissions that may be preventable with effective primary care and population health. In prior years, PQIs were attributed to the hospital where the visit occurred. The logic was changed in 2019 and PQIs and PDIs were assigned to hospitals based on the MPA attribution for their Medicare population and on a geographic attribution for non-Medicare patients. Since 2021, the attribution logic was changed to assign PQIs and PDIs on a geographic attribution only. Under this approach beneficiaries and their costs are assigned to hospitals based on their residency. The following section describes how the PQIs are identified and assigned to hospitals.

Accessing Reports

All PAU Policy Reports can be accessed by visiting reports.crisphealth.org and logging-in with a CRS username and password:

Step 1. Log in to the CRISP Reporting Services Portal by visiting reports.crisphealth.org. Once in the CRS Portal, a dashboard of different blue report "cards" will appear based on the access of the user. Clicking the card named "HSCRC Regulatory Reports" followed by the highlighted field labelled "Potentially Avoidable Utilization (PAU)" in the "Reports" panel will bring up the available reports for this category. The following screen shots represent the user's workflow:

Step 2. By clicking the excel and Interactive Report icons (see below), you will have access to the most up to date tableau dashboard reports. Additionally, the question icon will pull up documentation such as user guides and data dictionaries, and the Clock icon will pull up all archived reports.



PAU Details Reports (Excel)

The PAU Details Reports are provided to each hospital for encounter level analyses of flagged PQIs and Readmissions. These monthly reports should be understood as one row per encounter and includes both Inpatient and Observation encounters. One detail report enumerates encounters from the beginning of the calendar year through the available data unless otherwise specified.

Details include encounter dates, cost information, clinical flags, and binary flags for PQIs, PDIs, and non-PQI readmissions. *It is important to note* that PAU Detail files enumerate PQIs and PDIs that occur at the file-subject hospital, but through attribution these PQIs/PDIs may be attributed to another hospital in the final PAU adjustments. These reports should be downloaded by hospitals for additional encounter level analyses.

PAU Summary Report (Excel)

The PAU Summary Report is provided monthly as a hospital level aggregate of year-to-date performance in the key PAU measures. Included in the report are measures of non-PQI readmissions, PQIs, PDIs, and cost and revenue information. Row 5 details any intra-excel calculations that occur within the sheet.

The PAU Summary Report intends to summarize the information found in the PAU Details Reports, and as such includes hospital level admissions and readmissions before attribution is applied. Therefore, these numbers may ultimately differ from downstream products like the PAU Savings Report, which is produced after attribution methodology is applied.

Avoidable Admissions Report (Tableau)

The Avoidable Admissions Report provides a comprehensive package that enables viewers to see per capita prevention quality indicator (PQI) and pediatric quality indicator (PDI) values. In the Avoidable Admission Report, PQIs and PDIs are assigned to hospitals based on the MPA attribution. The following section describes how the PQIs are identified and assigned to hospitals.

Methodology to Calculate PQIs per capita

The next section walks through the steps needed to display PQIs on a per capita basis:

1. Identify PQIs (numerator)
2. Attribute PQIs and population (denominator) to hospitals
3. Calculate PQI rates

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(1) Identify PQIs and PDIs

PQIs and PDIs are specified according to the Agency for Healthcare Research and Quality (AHRQ). HSCRC updates PQI and PDI software when AHRQ releases new versions and follows coding updates. HSCRC applies the PQI and PDI software to inpatient discharges and observations stays greater than or equal to 24 hours in case-mix data. This differs from the standard AHRQ application on only inpatient discharges. The report currently uses PQI and PDI v2022 and is updated annually as new PQI and PDI software is released.[1]

Table 1. Numerator Measures:

Prevention Quality Indicator (PQI) and Selected Pediatric Quality Indicator (PDI) Measures

Variable in Report	Measure	AHRQ Description: numerator
Overall Composite	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.
Diabetes Composite	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 (PQI 1), diabetes with long-term complications (PQI 3), uncontrolled diabetes without complications (PQI 14), diabetes with lower-extremity amputation (PQI 16).
Acute Composite	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 (PQI 10), community-acquired bacterial pneumonia (PQI11), or urinary tract infection (PQI12).
COPD/Asthma	COMBINED: PQI 05 Chronic Obstructive Pulmonary Disease Older adults + PQI 15 Asthma Younger Adults	Admissions with a principal diagnosis of chronic obstructive pulmonary disease (COPD) or asthma, ages 40 years and older. 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.
Hypertension	PQI 07 Hypertension	Admissions with a principal diagnosis of hypertension, ages 18 years and older. Excludes kidney disease combined with dialysis access procedure admissions, cardiac procedure admissions.

1. https://qualityindicators.ahrq.gov/modules/pqi_resources.aspx#techspecs

Congestive Heart Failure	PQI 08 Heart Failure	Admissions with a principal diagnosis of heart failure per, ages 18 years and older. Excludes cardiac procedure admissions.
Pediatric Asthma	PDI 14 Asthma Admission rate	Admissions with a principal diagnosis of asthma, ages 2 through 17 years *CRISP report uses ages 0 through 17, due to the availability of ACS Census age groups*. Excludes cases with a diagnosis code for cystic fibrosis and anomalies of the respiratory system.
Pediatric Diabetes	PDI 15 Diabetes Shortterm complications admission rate	Admissions for a principal diagnosis of diabetes with short-term complications (ketoacidosis, hyperosmolarity, or coma), ages 6 through 17 years. *CRISP report uses ages 5 through 17.*
Acute Pediatric	PDI 16 Gastroenteritis admission rate + PDI 18 Urinary Tract Infection Admission rate	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. *CRISP report uses ages 0 through 17.* 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). *CRISP report uses ages 0 through 17.*

(2) Attribute PQIs, PDIs, and population to hospitals

PQI numerators and population denominators in this report are attributed to hospitals based on the MPA geographic attribution logic only with an adjustment to Academic Medical Centers (AMCs). See details below. This differs from prior years, where PQIs were based on the Medicare Performance Adjustment (MPA) attribution for Medicare beneficiaries with Part A and Part B enrollment, followed by geographic attribution for any non-Medicare beneficiaries.

Medicare Performance Adjustment attribution

The Medicare Performance Adjustment (MPA) utilizes Medicare claims data to attribute beneficiaries and their costs to hospitals based on their residence. Zip codes are assigned to hospitals based on hospital primary service areas (PSAs) listed in hospitals' Global Budget Revenue (GBR) agreements. Zip codes not contained in a hospital's PSA are assigned to the hospital with the greatest share of hospital use in that zip code, or, if that hospital is not sufficiently nearby, to the nearest hospital.

Please see the MPA Report for more details on attribution.

MPA attributed population: Total number of beneficiaries attributed to a hospital under the MPA geographic attribution.

Population counts by zip code, age, and gender are sourced from the 5-year American Community Survey. ACS values will be updated as soon as they are available. The last available ACS values will be used until newer data is available.

The denominators are aggregated in Tableau so that when corresponding filters are selected, both the numerator and denominator change appropriately.

(3) Calculate PQI and PDI rates

To calculate rates, the Tableau report divides a hospital's attributed numerator by the hospital's attributed population, multiplied by 1000 to calculate the PQI rate per 1000.[2] Some individual PDIs use specific pediatric populations - see Table 1 for specifications. All PQIs use the adult population over age 18 attributed to the hospital. If a PQI or PDI is displayed as a rate, the calculation is annualized. For example, if the report shows data from January-April, the count/1000 will be divided by 4 and multiplied by 12 to create the annualized rate.

PAU Savings Report (Excel)

The PAU Savings Report is the final monthly product of the PAU reporting process. This report summarizes the primary measures of the PAU policy (sending readmissions, PQIs, and PDIs), and annualizes them for projection purposes. Please refer to the report's second tab (Data Dictionary) for information regarding the distinct fields in the report. A succinct breakdown of what's included can be found below:

Tab	Description
PAU Readmissions Performance	Hospital-level performance on key non-PQI/PDI, sending readmission indicators and associated charges.
PQI Avoid Admits Performance	Hospital-level performance on key Prevention Quality Indicators (PQIs) and associated charges.
PDI Avoid Admits Performance	Hospital-level performance on key Pediatric Quality Indicators (PDIs) and associated charges.

2. In the literature, PQIs and PDIs are typically reported as per 100k. Multiply rate by 100 to get a comparable rate with other sources.

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User Guide

Tableau Features

On each tableau dashboard, there are menu options for the user to select, which are listed below. Additionally, the tableau report hosts multiple dashboards. The available dashboards are listed at the top.

Menu Option	Description
Refresh	If the tableau is taking too long to load with the filters, the refresh button is useful to refresh the tableau.
Revert	This option is intended to revert the report to its default view, undoing all user selections and/or filtering.
Pause	This option allows the user to pause the update of data as the user is filtering. Tableau reports process filter selections as the user makes them, and the tableau may take longer to process. If process time seems too long, utilize the 'Pause' button to prevent the report from processing each filter upon selection, resuming by clicking the pause button again only when you are ready for Tableau to proceed with processing the desired filters selected.
Help	When this menu option is selected, this tableau user guide will automatically open.
Print	This option allows you print selected tabs from the tableau. When you click the icon, a menu with various printing options shows up. The user can print multiple tabs and with the desired filters, and the user has options to adjust the page scaling, paper size, and paper orientation for printing
Crosstab	The crosstab option allows user to extract a dataset into excel and provides more columns for details. You will have to separately download a new crosstab if you want crosstabs of data tables showing different filter options.

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Tableau Filters

Filters can be selected. Certain filters are only available based on the tab selected. Below is a description of the filters that can be applied throughout the Tableau report.

Filter	Description
Year	Year in which the PQI occurred. Please note: the MPA attribution is less applicable the farther away you go from the current year. This is because the MPA attribution is point in time and uses provider lists from current or prior year. The farther back you go, the more PQIs and population will be attributed either under the geographic part of the MPA or under the non-MPA population.
Hospital Name	Hospital to which the PQIs are attributed. This is not necessarily the hospital where the visit occurred.
Attribution Category	MPA attributed patients reflect the MPA attributed Medicare beneficiaries. Non-MPA attributed beneficiaries are the non-Medicare FFS patients.
Payer	Primary expected payer as listed in case mix data
Gender	Patient Gender
Age Group	Patient Age, distributed into available ACS census age groups
Race	Patient Race, distributed into available ACS census race groups

Report Sections

Summary

The summary tab allows users to track their hospital's attributed PQIs and PDIs by attributed beneficiaries under the MPA. It allows users to compare their hospital's overall PAU Performance to peer hospitals and the statewide per capita.

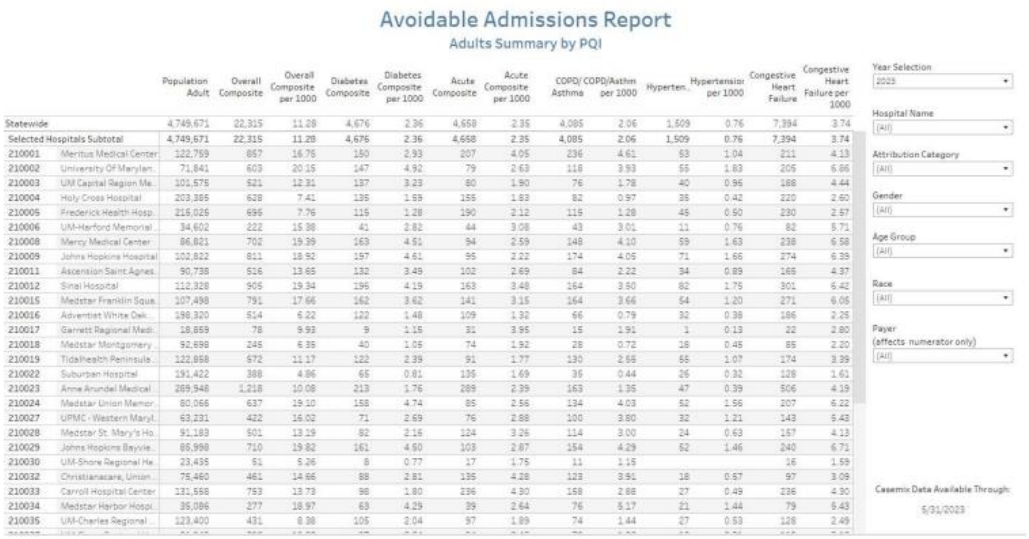
Metric	Definition
Total Experienced Actual Revenue	Total actual revenue reported per hospital
Non-PQI/PDI Readmissions (sending hospital)	Number of sending 30 days, all cause, all hospital inpatient readmissions (excluding planned readmissions based on specifications for Maryland Readmission Reduction Incentive Program) assigned to each hospital
Non-PQI/PDI Readmissions estimated Revenue	Estimated revenue associated with 30-day, all-cause readmissions that were not flagged as a PQI or PDI
Non-PQI/PDI Readmissions Performance	Estimated readmission revenue / Total actual experienced revenue
PQI(PDI) Attributed Population	YTD count of PQIs (PDIs) attributed population to a hospital

Annualized Observed PQI (PDI) Cases	YTD count of total PQIs (PDIs) observed at a hospital
PQI (PDI) 90 Risk Adjusted Rate	Attributed PQI's for a hospital divided by the attributed population. Risk Adjustment for PQIs and PDIs based on current AHRQ risk adjustment methodology

Summary by PQI

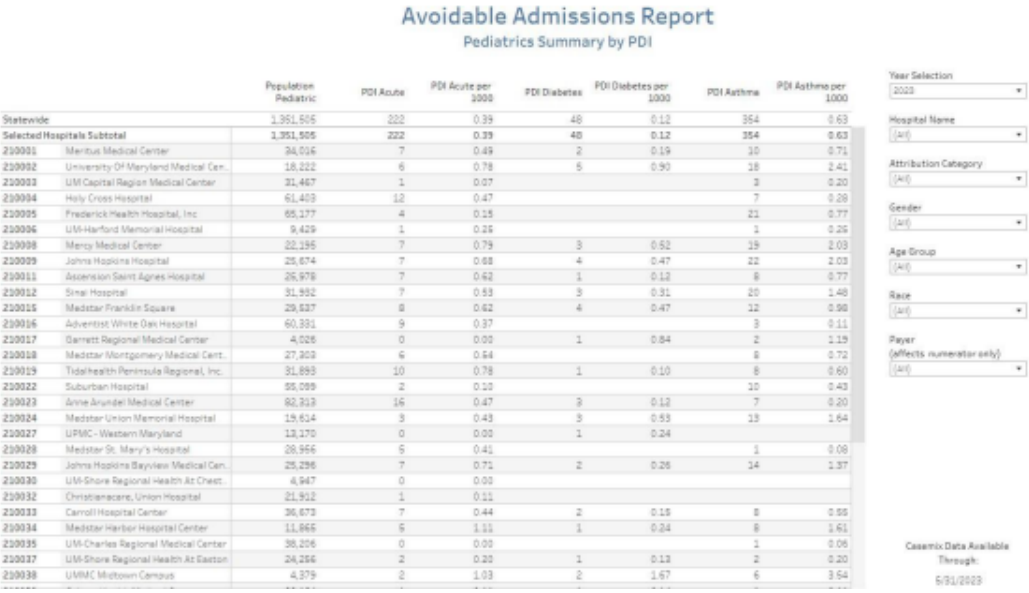
The summary by PQI tab allows users to view the number of PQIs assigned to their hospital by PQI. It breaks down the count of the specific PQIs as well as the PQI rate per 1000. Users can use this tab to identify PQIs which most impact their attributed adult population. The filters can be used to calculate the PQIs for a more specific population.

Metric	Definition
PQI Composite	YTD count of PQIs attributed to the hospital for the given PQI. For more information on the PQIs see the numerator section.
PQI Composite per 1000	Calculates the PQIs per attributed population * 1000. This calculation is annualized.



Summary by PDI

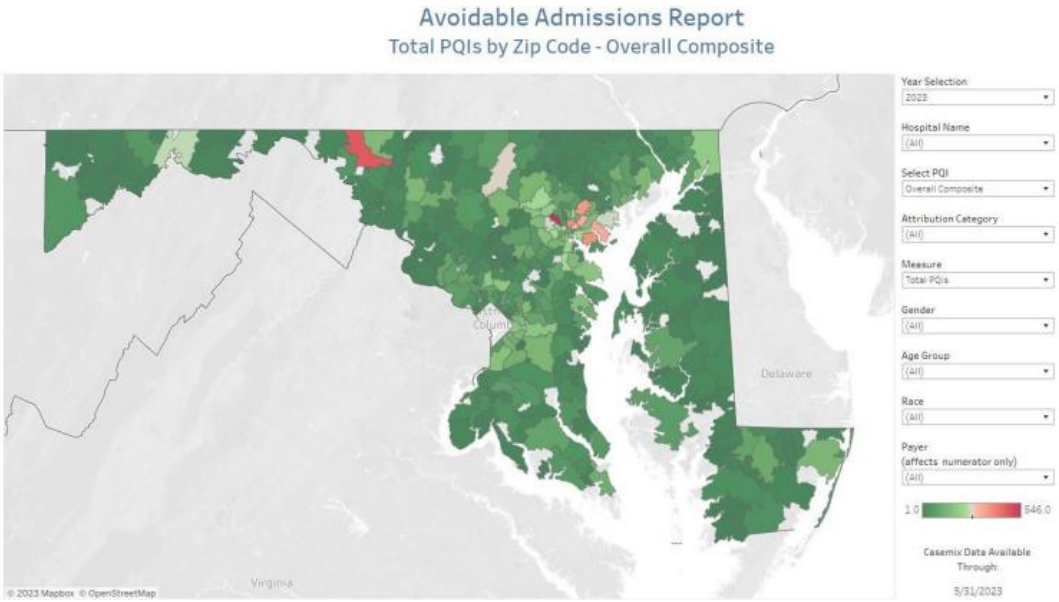
The summary by PDI tab allows users to view the PDIs assigned for the pediatric population. It breaks down the count of the specific PDIs as well as the PDI rate per 1000. Users can use this tab to identify PDIs which most impact their attributed pediatric population. The filters can be used to calculate the PDIs for a more specific population.



Metric	Definition
Population	Population shows the total number of beneficiaries attributed to a hospital. See the Denominator section for detailed methodology
PDI	YTD count of PDIs attributed to the hospital for the given PDI. For more information on the PDIs see the numerator section.
PDI per 1000	Calculates the PDIs per attributed population * 1000. This calculation is annualized.

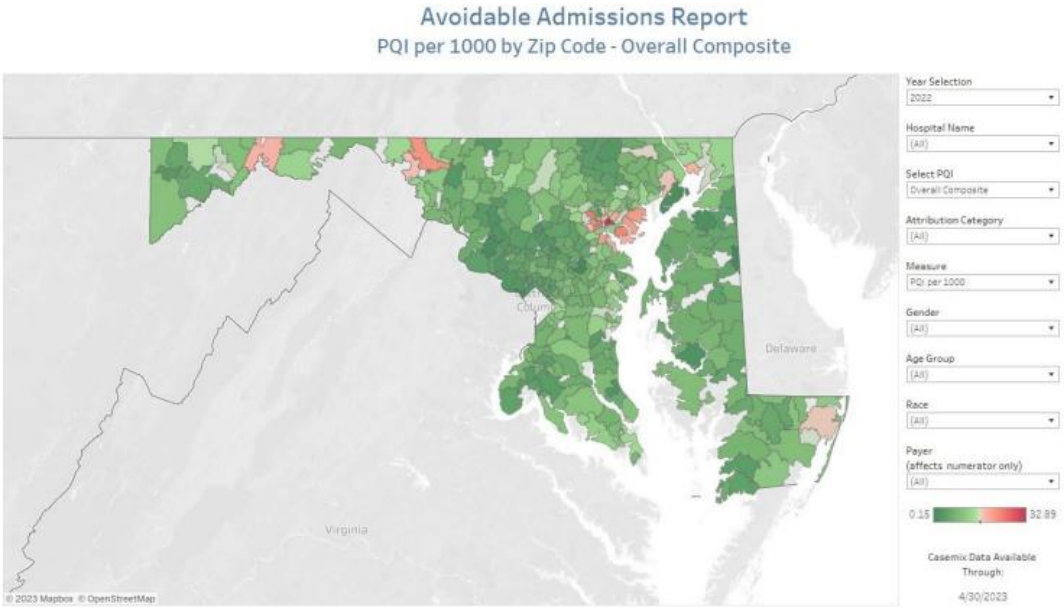
PQI per zip

This dashboard allows users to view the annualized number of attributed PQIs by zip code. Users can view the areas that have a high number of PQI visits. The filters on the right allow you to view the PQIs for a more specific population.



PQI per 1000 by Zip Code

This dashboard allows users to visualize the annualized PQI per 1000 rate by zip code. Turn the “Measure” filter to “PQI per 1000” to get this view. Users can use this view to identify areas that have higher than expected rates. The filters on the right allow you to view the PQIs for a more specific population.



Workflows

This report is to show summary performance for regulatory purposes on all attributed beneficiaries. Future versions of the PAU User Guide will include descriptions of potential workflows between the Avoidable Admissions Report, CCLF Medicare Data and Analytics Engine (MADE).

Connections with other reports

- PAU Detail-level files: Users can view visit level information for PQIs that are seen at their hospital, which may overlap with patients attributed under MPA or geography.
- PAU Savings: This report summarizes the primary measures of the PAU policy (sending readmissions, PQIs, and PDIs), and annualizes them for projection purposes. The report contains PQIs and PDIs attributed to your hospital. The Avoidable Admissions Tableau further breaks down the PQI and PDIs attributed to your hospital.
- MADE: Users can view patient details for Medicare beneficiaries for which their hospital has a treatment relationship or a care coordination agreement in MADE. PQI information is not available in MADE at this time.