



**Aetna Smart Compare™
primary care physician designation
measurement methodology
2021**

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Background on primary care physician (PCP) designations

Aetna® is one of the oldest and largest national insurers. That experience gives us a unique opportunity to help transform health care. We believe that a better care system is more transparent and consumer-focused, and it recognizes physicians for their clinical quality and effective use of health care resources.

We are developing provider designations to support reaching this vision.

The PCP designation identifies family practice, internal medicine and pediatric practices, participating in an Aetna commercial plan, that provide high-quality effective care to pediatric and adult patients based on recognized industry measures. This PCP designation will give our members more information to help them choose a primary care practice for themselves and their families. Primary care practices will be measured annually.

How we evaluate PCPs

The PCP designation is organized around three categories of measures:

- **Volume**
- **Effectiveness**, which measures the outcomes and efficiency of treatment decisions
- **Clinical quality**, which measures compliance with clinical guidelines

We measure these categories separately.

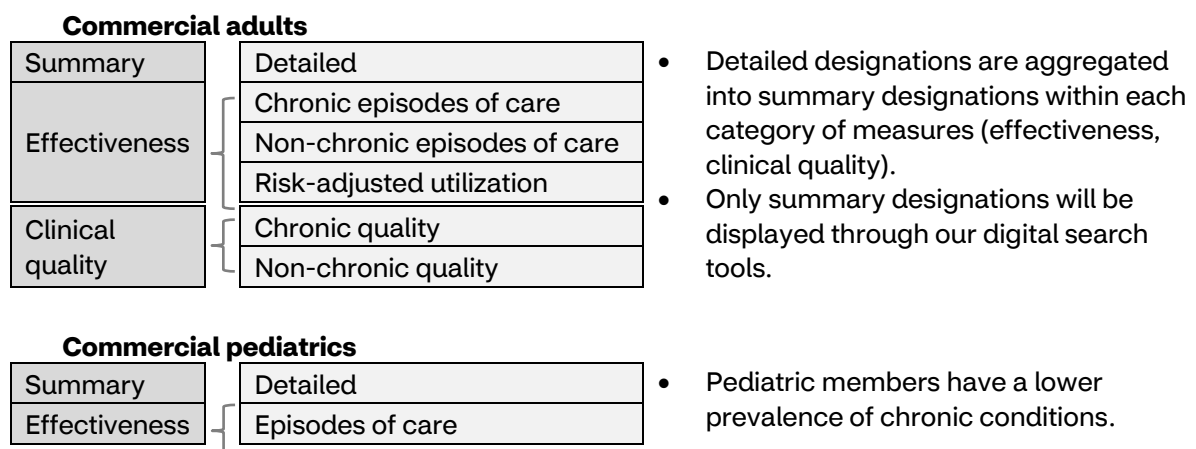
For provider practices that meet the volume threshold for the populations outlined in the volume section that follows, **up to two summary designations** for each patient population can be earned — **one for effectiveness and one for clinical quality**. In addition, **up to five detailed designations** for each patient population can be earned.

Summary designations are awarded by aggregating detailed designations. A primary care practice is awarded detailed designations based on their performance on sub-categories of measures that reflect different patients’ clinical needs:

- **Effectiveness** — A summary designation for effectiveness is the aggregation of three detailed designations: one for chronic episodes of care, one for non-chronic episodes of care and one for risk-adjusted utilization.
- **Clinical quality** — A summary designation for clinical quality is the aggregation of two detailed designations: one for chronic quality and one for non-chronic quality.

Table 1 illustrates the hierarchy between summary and detailed designations.

Table 1 – Full list of designation awards possible for a primary care practice



Clinical quality

Risk-adjusted utilization

Therefore, measures are not divided into chronic and non-chronic sub-categories.

Since patient populations are measured separately, the hierarchy applies within each patient population. Each of our members will only have two summary designations through our digital tools, because an individual member can only belong to one patient population.

Due to the limited prevalence of chronic conditions for pediatric patients, pediatric population episodes of care and clinical quality are measured without distinguishing between chronic and non-chronic clinical needs.

How a primary care practice can earn detailed designations

We based detailed designations on the performance of a primary care practice relative to a risk- and market-adjusted benchmark. There are three possible outcomes for each designation:

- **Designation earned:** Primary care practice performance is better than a risk- and market-adjusted benchmark in a way that is statistically significant.
- **Criteria not met:** Primary care practice performance is worse than a risk- and market-adjusted benchmark in a way that is statistically significant.
- **Insufficient information:** Primary care practice does not have sufficient data to be scored on that dimension, or performance is not significantly different from a risk- and market-adjusted benchmark.

How a primary care practice can earn summary designations

Summary designations are awarded using a **scoring system**:

- Each detailed “designation earned” outcome is worth 1 point.
- Each detailed “criteria not met” outcome is worth -1 point.
- Each detailed “insufficient information” outcome is worth 0 points.

Points are **summed for each measure category** (effectiveness, clinical quality). Summary designations are awarded based on the sum of points:

- “Designation earned” if the sum is 1 or higher.
- “Criteria not met” if the sum is negative.
- “Insufficient information” if the sum is zero.

Table 2 provides an example to illustrate this logic. Please note that, like the rest of this methodology, the sum is performed within each patient population.

Table 2 – Example of logic to determine whether a primary care practice earned effectiveness and clinical quality summary designations for commercial adults

Summary			Detailed		
Category	Results	Points	Sub-category	Results	Points
Effectiveness	Insufficient information	0	Chronic episodes of care	Designation earned	1
			Non-chronic episodes of care	Insufficient information	0
			Risk-adjusted utilization	Criteria not met	-1
Clinical quality	Designation earned	1	Chronic quality	Designation earned	1
			Non-chronic quality	Insufficient information	0

1. Volume

Physician practices must see enough members for us to evaluate them. And have reliable results that truly reflect a physicians' practice-patterns.

Only primary care practices with **at least 25 attributed valid members for a patient population throughout 2019** are eligible to receive designations for that patient population.

- Valid members are members attributed to a primary care practice at the end of 2019, and not attributed to any other practices during calendar year 2019. They also have at least six months of medical benefit eligibility in calendar year 2019.
- Attribution methodology is based on our standard attribution logic, which considers both volume and recency of claims. Members can be attributed to nurse practitioners and physician assistants that are part of primary care practices.

PCP practice	Business line	Population
Pediatrics	Commercial	Pediatrics (< 18 years of age)
Family Practice and Internal Medicine	Commercial	Adult (18 years of age and older)
Family Practice and Internal Medicine	Commercial	Pediatrics (< 18 years of age)

2. Effectiveness: Episodes efficiency

"Episode of care" is a methodology to assist in understanding medical cost and utilization drivers. An episode of care for a member represents treatment and service utilization across time for an identified health condition. The doctor, hospital, pharmacy and ancillary testing, as well as other costs and utilization relating to an episode of illness, are rolled up into a single entity based on a specific condition. An episode of care spans from the onset of symptoms until treatment is complete.

We use Optum Symmetry® Episode Treatment Groups® (ETG®) software version 9.4 illness classification system to build episodes of care data in the Aetna® Data Warehouse.

The ETG technology is distributed in the form of "grouper" software. The software accepts health care claims (service line detail) and returns the ETG value, along with other patient information. The grouper software rolls up all doctor, hospital, pharmacy and ancillary testing claims data together. It then creates episodes of illness or surgery that are clinically defined and identified by ETG codes for analysis purposes.

The Symmetry ETG offer the ability to identify, quantify and compare the total medical costs of a clinically based episode of care spanning hospitalizations, ambulatory visits and all ancillary services, including the use of pharmaceuticals. Medical claims and pharmacy claims are fed into the grouper software, and medical episodes are created from these claims.

There are many variables that can affect the use of health care resources for a condition. There can be variation in resource use to treat a condition that is a direct result of the population differences or level of illness. To adjust for the variation in resource use, a case-mix-adjusted "expected allowed amount" is created for each ETG that is attributed to a physician group. That case-mix-adjusted expected allowed amount is then compared to the actual allowed amount for that episode of care.

There can be variation in efficiency indexes over time analysis. Variation has been noted in physician groups whose episode counts over the given time are low. To evaluate physicians and determine potential for variation, the statistical significance of a provider group's efficiency score is evaluated with a .10 significance level.

We evaluate the efficiency of PCPs using episode conditions that a PCP typically manages. And where they had the most visits with that patient while managing that condition or where they co-managed a condition with a specialist provider. They had to have been involved in that member's episode during the first 10% of medical spend on that condition for the episode to be included in the analysis. **At least 20 valid non-outlier episodes are required for each population to be eligible for a designation.**

Each ETG has its own clean period. It is defined as the absence of treatment for a specified period. For example, ETG 438300 (Acute Bronchitis) has a 30-day clean period. This means that any claims related to that diagnosis that fall within a 30-day period will be considered a recurrence of the same condition. When an episode is started for this ETG, all clinically consistent claims activity for acute bronchitis group to this episode until the point where 30 days passes without any corresponding clinically consistent treatment. If a claim for this condition is received after 30 days, a new episode is triggered. Only full year or complete episodes are used in the evaluation of PCPs. Complete episodes are those that met the clean periods before and after the measure or the episode lasted 365 days. We limit chronic episodes (like diabetes or congestive heart failure) to a maximum of 365 days.

There is a claims lag of three months used in the episodes of care measurement. We use 2 years of episodes date to evaluate PCP efficiency.

Episode severity is a term used to describe the severity of a member's condition. ETG methodology takes advantage of the relevant complication and comorbidity factors (indicating a sicker member who may require more extensive treatment for a related condition) when determining an episode's severity. The result is a severity score and severity level for episodes. Typically, the higher the severity score, the more severe that condition is than for other members with a lower severity score for the same condition.

For example, if a member has an episode of diabetes and does not have complications or comorbidities associated with them, it would be expected that this member's severity score is relatively low. For a member with an episode of diabetes that has associated complications and comorbidities, it would be expected that this member's severity score is higher. Severity-adjusting episodes provides a powerful unit of analysis for comparing provider performance when different providers care for members with the same condition and different severity levels.

When comparing the allowed cost to the expected cost of an episode, the expected value reflects the case-mix-adjusted value for the PCP members' episodes. Outlier logic is applied at the case-mix category level. When case-mix categories are created, episodes are flagged as outliers if that episode is outside of two median absolute deviations away from the median allowed amounts for that case mix category.

Case mix variables:

Variable within each ETG	
Hospital referral region (HRR)	HRR Num level (Appendix A)
ETG code	ETG code level (Appendix B)
Social determinants of health	Identifies variables that impact health care cost in a census tract area: income, poverty, diversity, disability, education, physical inactivity, marital status, public transportation. CDC and US census information used to identify SDOH.
PCP type	Family practice and internal medicine vs Pediatric
Age	Age
Gender	Male or female
Year of episode	Two years January 1, 2018–December 31, 2019
Severity level	As indicated on the episode based on Symmetry. (Values are 0 to 4)
Business line	Commercial vs Medicare
Pharmacy usage	Whether or not the member has a pharmacy plan
HPD conditions	All conditions (Appendix C)
Concurrent episodes	Episodes that overlap each other by ETG code
Timing of PCP entry into episode	% of allowed amount that occurred in the episode before PCP first claim in episode
ICD 10 codes	Frequency by which ICD10 appears in that episode
ERG risk score	Optum Symmetry® Episode Risk Groups® (ERG®). Risk-adjusted episodes of care created by the ETG grouper. This allows for a seamless drill down from an ERG score into the episodes that are contributing to a patient's risk.
Episode days count	The length from the start of the episode to the end of the episode

Administrative specification

Denominator	Three denominators are created for each episode type/population combination.			
	<table border="1"> <tr> <td>Commercial</td> </tr> <tr> <td>Non-Chronic Adult</td> </tr> <tr> <td>Chronic Adult</td> </tr> <tr> <td>Pediatric</td> </tr> </table> <p>Denominator is the sum of the expected allowed amounts for the episodes being attributed to the group. The expected allowed amount is the case mix adjusted average for each ETG and its combination of variables as described above.</p> <p>Episode types <i>Non-chronic adult Score:</i> These are ETG conditions typically seen in relatively healthy population and are typically episodic and</p>	Commercial	Non-Chronic Adult	Chronic Adult
Commercial				
Non-Chronic Adult				
Chronic Adult				
Pediatric				

Eligible population:

Business lines	Commercial				
Ages	<p>Family practice, internal medicine:</p> <ul style="list-style-type: none"> • Pediatric population: Under 18 years of age • Adult population: 18 years and older <p>Pediatrics:</p> <ul style="list-style-type: none"> • Pediatric population: Under 18 years of age 				
Continuous enrollment	Complete and full year episodes are included, which means the episode began and came to an end according to the rules of clean periods, or were 12-month episodes. Episodes longer than 12 months for chronic conditions are not created by our warehouse to enable comparisons. For example, if a chronic episode for one person is only 12 months long, it would not be comparable to an episode for another person with the same condition that is 3 years long.				
Measurement time frame	Two full years of episodes where the episode ends within the two-year time frame.				
Benefit	Medical (pharmacy if available)				
Provider specialty category	Family practice, internal medicine, pediatrics Nurse practitioner and physician assistant (where practicing in primary care practices)				
	<p>uncomplicated</p> <p><i>Chronic adult score:</i> These are ETG conditions that are chronic in nature or are acute but more longitudinal than episodic and more support, collaboration and coordination from PCPs is required</p> <p><i>Pediatric score:</i> These are ETG conditions that are typically seen in a pediatric population</p>				
Episode volume	Minimum 20 episode per population (example: 20 episodes for non-chronic adult commercial, 20 episodes for chronic adult episodes, etc.)				
Total allowed \$	Episodes must be greater than \$0				
Numerator	<p>Three numerators are created for each episode type/population combination</p> <table border="1" style="margin-left: 40px;"> <tr> <td>Commercial</td> </tr> <tr> <td>Non-chronic adult</td> </tr> <tr> <td>Chronic adult</td> </tr> <tr> <td>Pediatric</td> </tr> </table> <p>Numerator is the sum of the actual allowed amounts for the same episodes in the denominator being attributed to the group</p>	Commercial	Non-chronic adult	Chronic adult	Pediatric
Commercial					
Non-chronic adult					
Chronic adult					
Pediatric					

Episode efficiency evaluation and scoring

Step 1: Aggregate episode level data for PCP practices.

- a) Using episode data, identify all episodes for the measurement period. This data is evaluated at the individual episode level for each tax ID attributed to the episode.

Step 2: Determine benchmark.

- a) Benchmark allowed per episode is calculated **using a decision tree machine learning model**. Model features include Optum Symmetry® Episode Risk Groups® (ERG®) retrospective risk score, concurrent episodes, member comorbidities and Social Determinants of Health. Model R-Squared is 0.70–0.79 excluding outliers.

Step 3: Determine PCP performance evaluation result.

- a) Calculate the episode-level performance index as total actual allowed amount/total benchmark allowed amount.
- b) Calculate the market adjusted episode level performance index as the episode level performance index/market level performance index for the market the practice being measured is a part of. The market and risk-level performance index is calculated as total actual episode allowed/total benchmark episode allowed with the following combinations of variables for different PCP sub-populations:
 - *Commercial adult - Healthy*: Hospital referral region (HRR) and practice risk tier (low if practice average risk score is \leq median, high otherwise)
 - *Commercial adult - Chronic, Small TIN (small if episode count is < 80th percentile of episode count), PCP only practice (PCP practice if >80% of claims amounts associated with PCP specialty providers)*: HRR and practice-risk tier
 - *Commercial Adult – Chronic, all other*: HRR and practice-risk tier
 - *Commercial Pediatrics, Small TIN, PCP only practice*: HRR and practice-risk tier
 - *Commercial Pediatrics, all other*: HRR and practice-risk tier
- c) Calculate the overall weighted performance index for a practice by taking a weighted average of the market-adjusted episode level performance index scores for that practice weighted by the total benchmark allowed amount.
- d) Conduct a two-sample weighted t-test comparing the practice's market-adjusted performance index weighted by the total benchmark allowed amount with the average market-adjusted performance index from the relevant decision tree node weighted by the total benchmark allowed amount. The t-test indicates whether there is a statistically significant difference between the actual and expected episode-level performance indices.
 - If the test has a p-value greater than 0.10, the practice results are not statistically significant and the practice outcome will be "Insufficient information."
 - If the test is statistically significant and the practice weighted performance index is less than 1, the practice will receive a designation of "Designation earned."
 - If the test is statistically significant and the practice weighted performance index is greater than 1, the practice outcome will be "Criteria not met."

Note: The weights used in the test are transformed with a degree of freedom correction. Using raw expected amount values for weights makes the tails of the t-test distribution very thin, leading to most test results having statistical significance. The correction standardizes the weights by their mean so that the sum of the weights equals the number of observations and creates a higher bar for statistical significance.

3. Effectiveness: Risk-adjusted utilization measures

Risk-adjusted utilization measures are more targeted utilization measures that assess both the use of specific resources and the outcomes associated with population management.

Primary care practices play an important role in improving the health of the populations that they manage, coordinating members care and ensuring appropriate use of resources. Inpatient utilization, post-acute utilization and emergency room trends will decline as the health of the population improves with better management of chronic conditions. Conducting end-of-life discussions with members and families and helping them coordinate hospice and palliative care will help assure that members are receiving the right level of care at the right time. As primary care practices coordinate care for members and provide education to members on treatment guidelines, overuse and misuse of high- tech radiology declines. Measures are risk-adjusted, however outliers are not identified and removed from this measure. This is to align with population health utilization measures used in the collaborative efforts with value-based contract organizations to improve population health.

Risk-adjusted utilization measures evaluation and scoring

Step 1: Aggregate numerator and denominator values for each measure type.

Using claims data, identify all events and enrollment for the measurement period for valid members attributed to the practice.

- Valid members are members attributed to a primary care practice at the end of 2019, and not attributed to any other practices during calendar year 2019. They also have at least six months of medical benefit eligibility in calendar year 2019.
- Attribution methodology is based on our standard attribution logic, which considers both volume and recency of claims. Members can be attributed to nurse practitioners and physician assistants that are part of primary care practices.

Step 2: Determine PCP practice's performance.

This calculation is done separately for each unique business line/age group/measure combination for a practice.

- a) For each measure, calculate the actual risk-adjusted rate per 1,000 as the (event count/ [Average member count/1000])/average risk score.
- b) Apply a Bayesian transformation to the actual risk-adjusted rate per 1,000 to create the adjusted rate per 1,000. The Bayesian transformation is applied to adjust for primary care practice volume and measure variance. (See empirical Bayesian transformation example for additional details).

Step 3: Determine benchmark.

Benchmark utilization is calculated for each measure as the average adjusted rate per 1,000 of a peer group, defined as combination of:

- Measure (for example, inpatient admissions/1,000 attributed members)
- Population (for example, commercial adults)
- Practice size (small if ≤ 110 attributed members for adults or ≤ 75 attributed members for pediatrics, large otherwise)
- Practice risk tier (low if practice average risk score is \leq median, high otherwise)
- Geography type (urban vs. non-urban).

Step 4: Determine PCP performance evaluation result.

- a) Calculate a measure level performance index as the adjusted rate per 1,000/benchmark.
- b) Create an aggregated primary care practice level performance index by weighting together individual measure level performance indices. The weights are defined as follows and are defined based on measure contribution to medical spend.

Measure	Weight
Acute inpatient admissions per 1,000	3 times
Total ER visits per 1,000	2 times
MRI/CT scan utilization per 1,000	1 time

- c) The primary care practice-level performance index is compared to 1. A statistical test (0.05 significance level) is run to identify primary care practices that are different from 1 in a way that is statistically significant to award designation. More than 75 attributed members are required to be eligible for a designation for the commercial pediatrics population, due to lower overall utilization.

A full calculation example can be found in Appendix E.

Risk-adjusted utilization measure specifications:

Acute inpatient admissions per 1,000 members per year
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This measure calculates the number of acute inpatient admissions per 1,000 members per year. This measure includes cases that with improved patient management potentially could be avoided with proactive outpatient treatment.

Eligible population	
Product lines	Commercial
Ages	All ages
Continuous enrollment	No requirement.
Measurement period	12-month measurement period
Benefit	Medical.

Administrative specification	
Denominator	All valid members attributed to the provider practice.
Numerator	Acute inpatient hospitalizations during the measurement period .

Total ER visits per 1,000 members per year

This measure calculates the rate of ER visits per 1,000 members per year.

Eligible population	
Product lines	Commercial
Ages	All ages.
Continuous enrollment	No continuous enrollment required.
Measurement period	12-month measurement period
Benefit	Medical.

Administrative specification	
Denominator	All valid members attributed to the provider practice.
Numerator	ER visits to an acute care facility or children's hospital.

MRI/CT scan utilization per 1,000/year

This measure calculates the rate of outpatient radiology MRI, CT scan utilization per 1,000 members per year.

Eligible population	
Product lines	Commercial
Ages	All ages.
Continuous enrollment	No continuous enrollment required.
Measurement period	12-month measurement period
Benefit	Medical.

Administrative specification	
Denominator	All valid members attributed to the provider practice.
Numerator	Count of outpatient radiology MRI, CT scan studies.

4. Clinical quality

The **HEDIS®** measures are used to evaluate the quality of care provided to members for preventative care, management of chronic conditions and outcomes of care. These measures are coded using the **HEDIS®** specifications to align with use of industry accepted standards of measurement.

The measures chosen are those that cover a range of age groups and member conditions where primary care practices would manage those members and conditions.

Due to HEDIS copyright limitations, we can't reproduce the exact HEDIS measure technical specifications and value set content. Annual HEDIS technical specifications and value set content area available here: <http://store.ncqa.org/index.php/>

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Access to annual HEDIS® Technical Specifications is on a paid subscription basis.

List of measures used in quality analysis:

NCQA ID	Measures	Specialty
ABA	<p>Adult BMI Assessment</p> <p>The percentage of members aged 18 years to 74 years who had an outpatient visit and whose body mass index (BMI) was documented during the measurement year or the year prior to the measurement year.</p> <p>Note: A higher rate indicates better performance.</p>	FP, I
BCS	<p>Breast Cancer Screening</p> <p>The percentage of women ages 50 years to 74 years who had a mammogram to screen for breast cancer.</p> <p>Note: A higher rate indicates better performance.</p>	FP, I
CCS	<p>Cervical Cancer Screening</p> <p>The percentage of women ages 21 years to 64 years who were screened for cervical cancer using either of the following criteria:</p> <ul style="list-style-type: none"> • Women ages 21 years to 64 years who had cervical cytology performed every 3 years. • Women ages 30 years to 64 years who had cervical cytology/human papillomavirus (HPV) co-testing performed every 5 years. <p>Note: A higher rate indicates better performance.</p>	FP, I
COL	<p>Colorectal Cancer Screening</p> <p>The percentage of members aged 50 years to 75 years who had appropriate screening for colorectal cancer.</p> <p>Note: A higher rate indicates better performance.</p>	FP, I
CDC	<p>Comprehensive Diabetes Care: Hemoglobin A1c Testing</p> <p>The percentage of members aged 18 years to 75 years with diabetes (type 1 or type 2) who had an HbA1c test performed during the measurement year, as identified by claim/encounter or automated laboratory data.</p> <p>Note: A higher rate indicates better performance.</p>	FP, I
CDC	<p>Comprehensive Diabetes Care: HbA1c poor control >9.0%</p>	FP, I

	<p>The percentage of members aged 18 years to 75 years with diabetes (type 1 or type 2) who had an HbA1c level >9.0% or is missing a result, or if an HbA1c test was not done during the measurement year.</p> <p>Note: This measure is reverse scored. A higher rate indicates better performance</p>	
CDC	<p>Comprehensive Diabetes Care: Retinal eye exam</p> <p>The percentage of members aged 18 years to 75 years with diabetes (type 1 or type 2) who had screening or monitoring for diabetic retinal disease.</p> <p>Note: A higher rate indicates better performance.</p>	FP, I
CDC	<p>Comprehensive Diabetes Care: Medical attention for nephropathy</p> <p>The percentage of members aged 18 years to 75 years with diabetes (type 1 or type 2) who had a nephropathy screening or monitoring test or evidence of nephropathy.</p> <p>Note: A higher rate indicates better performance.</p>	FP, I
MRD	<p><i>Medication Reconciliation Post-discharge</i></p> <p>The percentage of % of discharges from January 1 – December 31 of the measurement year for members 18 years of age and older whom medications were reconciled the day of discharge through 30 days post discharge</p> <p>Note: A higher rate indicates better performance.</p>	FP, I
COA	<p>Care for Older Adults</p> <p>The percentage of members 66 years of age and older who had each of the following during the measurement year:</p> <ul style="list-style-type: none"> • Advance care planning • Medication review • Functional status assessment • Pain assessment <p>Note: A higher rate indicates better performance.</p>	FP, I
IMA	<p>Immunizations for Adolescents</p> <p>The percentage of adolescent members 13 years of age who had one dose of meningococcal vaccine, one tetanus, diphtheria toxoids and acellular pertussis (Tdap) vaccine, and have completed the human papillomavirus (HPV) vaccine series by their 13th birthday. The measure calculates a rate for each vaccine and two combination rates.</p> <p>Note: A higher rate indicates better performance.</p>	P
CWP	<p>Appropriate Testing for Pharyngitis</p> <p>The percentage of episodes for members 3 years of age or older who were diagnosed with pharyngitis, dispensed an antibiotic, and received a group A streptococcus (strep) test for the episode.</p> <p>Note: A higher rate indicates better performance.</p>	P
URI	<p>Appropriate Treatment for Upper Respiratory Infection</p> <p>The percentage of episodes for members 3 months of age or older who were given a diagnosis of upper respiratory infection (URI) and were not dispensed an antibiotic prescription.</p> <p>Note: A higher rate indicates better performance.</p>	FP, I, P
W15	<p>Well-Child/Pediatric Visits in the First 15 Months of Life</p>	P

	<p>The percentage of members who turned 15 months old during the measurement year and who had the following number of well-child visits with a PCP during their first 15 months of life:</p> <ul style="list-style-type: none"> • No well-child visits • One well-child visit • Two well-child visits • Three well-child visits • Four well-child visits • Five well-child visits • Six or more well-child visits <p>Note: A higher rate indicates better performance.</p>	
W34	<p>Well-Child/Pediatric Visits in the Third, Fourth, Fifth and Sixth Years of Life</p> <p>The percentage of members aged 3 years to 6 years who had one or more well-child visits with a PCP during the measurement year.</p> <p>Note: A higher rate indicates better performance.</p>	P
SPD	<p>Statin therapy for patients with diabetes</p> <p>The percentage of members aged 40 years to 75 years during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD) who met the following criteria. Two rates are reported:</p> <ol style="list-style-type: none"> 1. <i>Received statin therapy.</i> Members who were dispensed at least one statin medication of any intensity during the measurement year. 2. <i>Statin adherence 80%.</i> Members who remained on a statin medication of any intensity for at least 80% of the treatment period. <p>Note: A higher rate indicates better performance.</p>	FP, I
WCC	<p>Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents</p> <p>The percentage of members 3–17 years of age who had an outpatient visit with a PCP or Ob/Gyn and who had evidence of the following during the measurement year.</p> <ul style="list-style-type: none"> • BMI percentile documentation* • Counseling for nutrition • Counseling for physical activity <p><i>*Because BMI norms for youth vary with age and gender, this measure evaluates whether BMI percentile is assessed rather than an absolute BMI value.</i></p> <p>Note: A higher rate indicates better performance.</p>	P

Clinical quality evaluation and scoring

Step 1: Aggregate numerator and denominator values for each quality measure.

The PCP designation measures primary care practices based on quality performance on valid members attributed to the practice. Performance is measured based on data for the HEDIS measurement period ending December 31, 2019.

- Valid members are members attributed to a primary care practice at the end of 2019, and not attributed to any other practices during calendar year 2019. They also have at least six months of medical benefit eligibility in calendar year 2019.
- Attribution methodology is based on our standard attribution logic, which considers both volume and recency of claims. Members can be attributed to nurse practitioners and physician assistants that are part of primary care practices.
- Members must also have specific continuous enrollment requirements in the HEDIS measure specifications.

Step 2: Determine PCP practice's performance.

This calculation is done separately for each unique business line/age group/measure combination for a practice. Only measures where a practice has at least five valid members in the denominator for a patient population are considered valid measures and included in the assessment.

- a) For each measure, calculate the actual score for each PCP practice as the measure numerator divided by the measure denominator.
- b) Apply a Bayesian transformation to the actual measure score to create the adjusted measure score. The Bayesian transformation is applied to adjust for primary care practice volume and measure variance. (See empirical Bayesian transformation example for additional details.)

Step 3: Determine benchmark.

Benchmark utilization is calculated for each measure as the average adjusted measure score of a peer group, defined as a combination of: measure, population (line of business and age group), practice size, practice risk tier and geography type with a minimum number of TINs in each combination of variables.

Step 4: Determine PCP performance evaluation result.

PCP performance evaluation is done at the domain/business line/age group level. For a physician group to receive a domain score, they must have at least two quality measures in that domain with at least five denominators in those measures for each measure/business line/population. For a physician group to receive an overall score they must have at least three measures in total.

- a) Create a confidence interval around the adjusted measure score, to create an upper and lower bound.
- b) Calculate an upper and lower bound for the measure level performance index.
- c) The final performance index is calculated as the midpoint between the performance index – lower bound and performance index – upper bound.
- d) Create a normalized performance index. This normalization is done to account for differences in average value and standard deviation across measures. A normalized index is calculated for each measure as (final performance index – peer group measure level mean)/peer group measure level standard deviation.
- e) Create an aggregated primary care practice level performance index. The practice level performance index is calculated as the average of normalized measure-level indices.
- f) The primary care practice-level performance index is compared to 0. A statistical test (0.1 significance level) is run to identify primary care practices who are different from 0 in a way that is statistically significant to award designation.

A full calculation example can be found in Appendix F.

Specifications of HEDIS quality measures:

Adult BMI Assessment	
Measure acronym: ABA	Measure category: <i>Prevention and Screening</i>
Description: The percentage of members aged 18 years to 74 years who had an outpatient visit and whose body mass index (BMI) was documented during the measurement year or the year prior to the measurement year.	
Administrative specification:	
Denominator	Members aged 18 years to 74 years as of December 31 of the measurement year. Exclude members who had a pregnancy during the measurement period.
Numerator	BMI during the measurement year or the year prior to the measurement year.
Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	The measurement year of 12 months and the year prior to the measurement year. No more than one gap in continuous enrollment of up to 45 days during each year of continuous enrollment.

Risk adjustment: None
Managing provider attribution: FP, I
Data collection approach: Aetna claims data, measurement year plus 3 months runout
Population: Adults
Measure type: Non-Chronic

Breast Cancer Screening	
Measure acronym: BCS	Measure category: <i>Effectiveness of Care/Prevention & Screening</i>
Description: The percentage of women ages 50 years to 74 years who had a mammogram to screen for breast cancer.	
Administrative specification:	
Denominator	Female members aged 52 years to 74 years as of December 31 of the measurement year.
Denominator exclusions	Exclude members who meet any of the following criteria: <ul style="list-style-type: none"> • Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: <ul style="list-style-type: none"> – Enrolled in an Institutional SNP (I-SNP) any time during the measurement year.

	<ul style="list-style-type: none"> – Living long-term in an institution any time during the measurement year • Members 66–80 years of age as of December 31 of the measurement year with frailty and advanced illness. Members must meet both of the following frailty and advanced illness criteria to be excluded: <ul style="list-style-type: none"> – At least one claim/encounter for frailty – Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis • Members 81 years of age and older as of December 31 of the measurement year with frailty during the measurement year. • Members in hospice or using hospice services • A dispensed dementia medication • Bilateral mastectomy any time during the member’s history through December 31 of the measurement year
Numerator	Female members with one or more mammograms any time on or between two years prior to the measurement year.
Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	October 1 two years prior to the measurement year through December 31 of the measurement year. No more than one gap in enrollment of up to 45 days for each full calendar year of continuous enrollment (i.e., the measurement year and the year prior to the measurement year).

Risk adjustment: None
Managing provider attribution: FP, I
Data collection approach: Aetna claims data, measurement year plus 3 months runout
Population: Adults
Measure type: Non-Chronic

Cervical Cancer Screening	
Measure acronym: CCS	Measure category: <i>Effectiveness of Care/Prevention & Screening</i>
Description: The percentage of women ages 21 years to 64 years who were screened for cervical cancer using either of the following criteria: <ul style="list-style-type: none"> • Women ages 21 years to 64 years who had cervical cytology performed every 3 years. 	

<ul style="list-style-type: none"> Women ages 30 years to 64 years who had cervical cytology/human papillomavirus (HPV) co-testing performed every 5 years. 	
Administrative apecification:	
Denominator	Female members aged 21 years to 64 years.
Denominator exclusions	Exclude members who meet any of the following criteria: <ul style="list-style-type: none"> Members in hospice Hysterectomy with no residual cervix, cervical agenesis or acquired absence of cervix any time during the member's history through December 31 of the measurement year
Numerator	Female members who were screened for cervical cancer using: <ul style="list-style-type: none"> Women ages 21 years to 64 years who had cervical cytology performed every 3 years. Women ages 30 years to 64 years who had cervical cytology/human papillomavirus (HPV) co-testing performed every 5 years.
Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	The measurement year of 12 months and 2 years prior to the measurement year. No more than one gap in enrollment of up to 45 days during each year of continuous enrollment.
Risk adjustment: None	
Managing provider attribution: FP, I	
Data collection approach: Aetna claims data, measurement year plus 3 months runout	
Population: Adults	
Measure type: Non-Chronic	

Colorectal Cancer Screening	
Measure acronym: COL	Measure category: <i>Effectiveness of Care/Prevention & Screening</i>
Description: The percentage of members aged 50 years to 75 years who had appropriate screening for colorectal cancer.	
Administrative apecification:	
Denominator	Members aged 51–75 years as of December 31 of the measurement year.
Denominator exclusions	Exclude members who meet any of the following criteria: <ul style="list-style-type: none"> Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: <ul style="list-style-type: none"> Enrolled in an Institutional SNP (I-SNP) any time during the measurement year. Living long-term in an institution any time during the measurement year

	<ul style="list-style-type: none"> Members 66–80 years of age as of December 31 of the measurement year with frailty and advanced illness. Members must meet both of the following frailty and advanced illness criteria to be excluded: <ul style="list-style-type: none"> At least one claim/encounter for frailty Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis Members 81 years of age and older as of December 31 of the measurement year with frailty during the measurement year. Members in hospice or using hospice services A dispensed dementia medication Colorectal cancer diagnosis or total colectomy any time during the member’s history through December 31 of the measurement year
Numerator	Members with one or more screenings for colorectal cancer using: <ul style="list-style-type: none"> Fecal occult blood test with the required number of samples returned, regardless of FOBT type, during the measurement year. Flexible sigmoidoscopy during the measurement year or the four years prior to the measurement year. Colonoscopy during the measurement year or the nine years prior to the measurement year. CT colonography during the measurement year or the four years prior to the measurement year. FIT-DNA test during the measurement year or the two years prior to the measurement year.
Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	The measurement year of 12 months and 1 year prior to the measurement year. No more than one gap in continuous enrollment of up to 45 days during each year of continuous enrollment.
Risk adjustment: None	
Managing provider attribution: FP, I	
Data collection approach: Aetna claims data, measurement year plus 3 months runout	
Population: Adults	
Measure type: Non-Chronic	

Comprehensive Diabetes Care	
Measure acronym: <i>CDC</i>	Measure category: <i>Effectiveness of Care/Diabetes</i>
Description: The percentage of members aged 18 years to 75 years as of December 31 of the measurement year diagnosed with diabetes (type 1 or type 2) who hemoglobin A1c testing performed.	

CDC HbA1c Testing Administrative apecification:	
Denominator	Members aged 18 years to 75 years with diabetes (type 1 or type 2).
Denominator exclusions	<p>Exclude members who meet any of the following criteria:</p> <ul style="list-style-type: none"> • Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: <ul style="list-style-type: none"> – Enrolled in an Institutional SNP (I-SNP) any time during the measurement year. – Living long-term in an institution any time during the measurement year • Members 66–80 years of age as of December 31 of the measurement year with frailty and advanced illness. Members must meet both of the following frailty and advanced illness criteria to be excluded: <ul style="list-style-type: none"> – At least one claim/encounter for frailty – Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis • Members 81 years of age and older as of December 31 of the measurement year with frailty during the measurement year. • Members in hospice or using hospice services • A dispensed dementia medication
Numerator	Members who had HbA1c test performed during the measurement year, as identified by claim/encounter or automated laboratory data.
Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	The measurement year of 12 months. No more than one gap in continuous enrollment of up to 45 days during each year of continuous enrollment.

Description: The percentage of members aged 18 years to 75 years as of December 31 of the measurement year diagnosed with diabetes (type 1 or type 2) who had hemoglobin A1c testing performed and had result at level greater than 9%.	
CDC HbA1c Poor Control >9%	
Administrative apecification:	
Denominator	Members aged 18 years to 75 years with diabetes (type 1 or type 2).
Denominator exclusions	<p>Exclude members who meet any of the following criteria:</p> <ul style="list-style-type: none"> • Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following:

	<ul style="list-style-type: none"> – Enrolled in an Institutional SNP (I-SNP) any time during the measurement year. – Living long-term in an institution any time during the measurement year <ul style="list-style-type: none"> • Members 66–80 years of age as of December 31 of the measurement year with frailty and advanced illness. Members must meet both of the following frailty and advanced illness criteria to be excluded: <ul style="list-style-type: none"> – At least one claim/encounter for frailty – Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis • Members 81 years of age and older as of December 31 of the measurement year with frailty during the measurement year. • Members in hospice or using hospice services • A dispensed dementia medication
Numerator	Members whose most recent HbA1c level is >9.0% or is missing a result, or if an HbA1c test was not done during the measurement year. The member is not numerator compliant if the result for the most recent HbA1c test during the measurement year is ≤9.0%.
Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	The measurement year of 12 months. No more than one gap in continuous enrollment of up to 45 days during each year of continuous enrollment.

Description: The percentage of members aged 18 years to 75 years with diabetes (type 1 or type 2) who had eye exam performed.	
CDC Retinal Eye Exam	
Administrative specification:	
Denominator	Members aged 18 years to 75 years diagnosed with diabetes (type 1 or type 2).
Denominator exclusions	<p>Exclude members who meet any of the following criteria:</p> <ul style="list-style-type: none"> • Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: <ul style="list-style-type: none"> – Enrolled in an Institutional SNP (I-SNP) any time during the measurement year. – Living long-term in an institution any time during the measurement year

	<ul style="list-style-type: none"> Members 66–80 years of age as of December 31 of the measurement year with frailty and advanced illness. Members must meet both of the following frailty and advanced illness criteria to be excluded: <ul style="list-style-type: none"> At least one claim/encounter for frailty Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis Members 81 years of age and older as of December 31 of the measurement year with frailty during the measurement year. Members in hospice or using hospice services A dispensed dementia medication
Numerator	Members who had screening or monitoring for diabetic retinal disease by an eye care professional (optometrist or ophthalmologist) using: <ul style="list-style-type: none"> A retinal or dilated eye exam. A negative retinal or dilated eye exam (negative for retinopathy) in the year prior to the measurement year. Bilateral eye enucleation anytime during the member’s history to the measurement year.
Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	The measurement year of 12 months. No more than one gap in continuous enrollment of up to 45 days during each year of continuous enrollment.

Description:

The percentage of members aged 18 years to 75 years diagnosed with diabetes (type 1 or type 2) that had medical attention for nephropathy.

CDC Medical Attention for Nephropathy

Administrative apecification:

Denominator Members aged 18 years to 75 years diagnosed with diabetes (type 1 or type 2).

Denominator exclusions

Exclude members who meet any of the following criteria:

- Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following:
 - Enrolled in an Institutional SNP (I-SNP) any time during the measurement year.
 - Living long-term in an institution any time during the measurement year
- Members 66–80 years of age as of December 31 of the measurement year with frailty and advanced illness. Members must meet both of the following frailty and advanced illness criteria to be excluded:
 - At least one claim/encounter for frailty

	<ul style="list-style-type: none"> – Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis • Members 81 years of age and older as of December 31 of the measurement year with frailty during the measurement year. • Members in hospice or using hospice services • A dispensed dementia medication
Numerator	Members who a nephropathy screening or monitoring test or evidence of nephropathy using: <ul style="list-style-type: none"> • A nephropathy screening or monitoring test • Evidence of treatment for nephropathy or ACE/ARB therapy • Evidence of stage 4 chronic kidney disease • Evidence of ESRD • Evidence of kidney transplant • A visit with a nephrologist • At least one ACE inhibitor or ARB dispensing event
Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	The measurement year of 12 months. No more than one gap in continuous enrollment of up to 45 days during each year of continuous enrollment.

Risk adjustment: None
Managing provider attribution: FP, I
Data collection approach: Aetna claims data, measurement year plus 3 months runout
Population: Adults
Measure type: Chronic

Medication Reconciliation Post-discharge	
Measure acronym: <i>MRD</i>	Measure category: <i>Medication Management and Care Coordination</i>
Description: The percentage of discharges from January 1–December 1 of the measurement year for members 18 years of age and older for whom medications were reconciled the date of discharge through 30 days after discharge (31 total days).	
Administrative specification:	
Denominator	18 years and older as of December 31 of the measurement year. The denominator for this measure is based on discharges, not members. If members have more than one discharge, include all discharges on or between January 1 and December 1 of the measurement year. Members in hospice or receiving hospice care are excluded from denominator.

Numerator	Medication reconciliation conducted by a prescribing practitioner, clinical pharmacist, or registered nurse on the date of discharge through 30 days after discharge (31 total days).
Product lines & benefit	Commercial Medical, Pharmacy during the measurement year.
Continuous enrollment & allowable gap	Date of discharge through 30 days after discharge (31 total days). None
Risk adjustment: None	
Managing provider attribution: FP, I	
Data collection approach: Aetna claims data, measurement year plus 3 months runout	
Population: Adults	
Measure type: Chronic	

Care for Older Adults	
Measure acronym: COA	Measure category: <i>Effectiveness of Care/ Prevention & Screening</i>
Description: The percentage of members 66 years of age and older who had each of the following during the measurement year: <ul style="list-style-type: none"> • Advance care planning • Medication review • Functional status assessment • Pain assessment 	
Administrative apecification:	
Denominator	Members 66 years of age and older as of December 31 of the measurement year. Members in hospice are excluded from denominator.
Numerator	Members who received: <p>Advance Care Planning</p> <ul style="list-style-type: none"> • Evidence of advance care planning. <p>Medication Review: Meet either of the following criteria:</p> <ul style="list-style-type: none"> • Both of the following on the same claim during the measurement year where the provider type is a prescribing practitioner or clinical pharmacist: <ul style="list-style-type: none"> - At least one medication review. - The presence of a medication list in the medical record. • Transitional care management services during the measurement year <p>Functional Status Assessment</p> <ul style="list-style-type: none"> • At least one functional status assessment during the measurement year <p>Pain Assessment</p> <ul style="list-style-type: none"> • At least one pain assessment during the measurement year
Product lines & benefit	Commercial Medical during the measurement year. ***Only measure Functional Status Assessment for commercial population

Continuous enrollment & allowable gap	Date of discharge through 30 days after discharge (31 total days). None
Risk adjustment:	None
Managing provider attribution:	FP, I
Data collection approach:	Aetna claims data, measurement year plus 3 months runout
Population:	Adults
Measure type:	Chronic

Immunizations for Adolescents	
Measure acronym: <i>IMA</i>	Measure category: <i>Effectiveness of care/ Prevention & Screening</i>
Description: The percentage of adolescent members aged 13 years who had one dose of meningococcal conjugate vaccine, one tetanus, diphtheria toxoids and acellular pertussis (Tdap) vaccine, and have completed the human papillomavirus (HPV) vaccine series by their 13th birthday.	
Administrative specification:	
Denominator	Adolescent members who turn 13 years of age during the measurement year. Adolescents are excluded if they who had a contraindication for a specific vaccine from the denominator for all antigen rates and the combination rates. Members in hospice are excluded
Numerator	For meningococcal, Tdap and HPV only count members with evidence of the antigen or combination vaccine. <i>Meningococcal</i> At least one meningococcal serogroups A, C, W, Y vaccine, with a date of service on or between the members' 11th and 13th birthdays. <i>Tdap</i> At least one tetanus, diphtheria toxoids and acellular pertussis (Tdap), with a date of service on or between the members' 10th and 13th birthdays. <i>HPV</i> At least two HPV vaccines with different dates of service on or between the member's 9th and 13th birthdays. There must be at least 146 days between the first and second dose of the HPV vaccine. For example, if the service date for the first vaccine was March 1, then the service date for the second vaccine must be after July 25. <i>OR</i> At least three HPV vaccines, with different dates of service on or between the member's 9th and 13th birthdays. <i>Combination 1 (Meningococcal, Tdap)</i> Adolescents who are numerator compliant for both the meningococcal conjugate and Tdap indicators. <i>Combination 2 (Meningococcal, Tdap, HPV)</i> Adolescents who are numerator compliant for all three indicators (meningococcal, Tdap, HPV).

Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	12 months prior to the member's 13th birthday. No more than one gap in enrollment of up to 45 days during the 12 months prior to the 13th birthday.
Risk adjustment: None	
Managing provider attribution: P	
Data collection approach: Aetna claims data, measurement year plus 3 months runout	
Population: Pediatrics	
Measure type: Pediatrics	

Appropriate Testing for Pharyngitis	
Measure acronym: CWP	Measure category: Effectiveness of care/ Respiratory Conditions
Description: The percentage of episodes for members 3 years and older where the member was diagnosed with pharyngitis, dispensed an antibiotic, and received a group A streptococcus (strep) test for the episode. A higher rate represents better performance (i.e., appropriate testing).	
Administrative specification:	
Denominator	Members who were 3 years or older as of the Episode Date diagnosed with pharyngitis. Exclude members who are in hospice.
Numerator	Members who had a group A streptococcus test in the seven-day period from three days prior to the Index Episode Start Date (IESD) through three days after the Index Episode Start Date (IESD) who were dispensed an antibiotic.
Product lines & benefit	Commercial Medical, Pharmacy during the measurement year.
Continuous enrollment & allowable gap	30 days prior to the Episode Date through 3 days after the Episode Date (34 total days). No gaps in enrollment during the continuous enrollment period.
Risk adjustment: None	
Managing provider attribution: P	
Data collection approach: Aetna claims data, measurement year plus 3 months runout	
Population: Pediatrics	
Measure type: Pediatrics	

Appropriate Testing for Children with Pharyngitis Measure Antibiotic Medications List			
Description	Prescription		
Aminopenicillins	Amoxicillin	Ampicillin	
Beta-lactamase inhibitors	Amoxicillin-clavulanate		
First generation cephalosporins	Cefadroxil	Cefazolin	Cephalexin
Folate antagonist	Trimethoprim		
Lincomycin derivatives	Clindamycin		

Macrolides	Azithromycin Clarithromycin	Erythromycin Erythromycin ethylsuccinate	Erythromycin lactobionate Erythromycin stearate
Natural penicillins	Penicillin G potassium Penicillin G sodium	Penicillin V potassium	
Penicillinase-resistant penicillins	Dicloxacillin		
Quinolones	Ciprofloxacin Levofloxacin	Moxifloxacin Ofloxacin	
Second generation cephalosporins	Cefaclor	Cefprozil	Cefuroxime
Sulfonamides	Sulfamethoxazole-trimethoprim		
Tetracyclines	Doxycycline Minocycline	Tetracycline	
Third generation cephalosporins	Cefdinir Cefixime	Cefpodoxime Ceftibuten	Cefditoren Ceftriaxone

Appropriate Treatment for Upper Respiratory Infection	
Measure acronym: <i>URI</i>	Measure category: <i>Effectiveness of care Overuse/Appropriateness</i>
Description: The percentage of episodes for members 3 months of age and older with a diagnosis of upper respiratory infection (URI) that did not result in an antibiotic dispensing event.	
Administrative specification:	
Denominator	Members who were 3 months of age or older as of the Episode Date, diagnosed with an upper respiratory infection. Members in hospice are excluded from denominator.
Numerator	Members who were dispensed prescription for an antibiotic medication on or three days after the Index Episode Start Date (IESD). <i>Do not include denied claims.</i>
Calculation	The measure is reported as an inverted rate [1- (numerator/eligible population)]. A higher rate indicates appropriate URI treatment (i.e., the proportion of episodes that did not result in an antibiotic dispensing event).
Product lines & benefit	Commercial Medical, Pharmacy during the measurement year.
Continuous enrollment & allowable gap	30 days prior to the Episode Date through 3 days after the Episode Date (34 total days). No gaps in enrollment during the continuous enrollment period
Risk adjustment: None	
Managing provider attribution: FP, I, P	
Data collection approach: Aetna claims data, measurement year plus 3 months runout	
Population: Pediatrics, Adults	
Measure type: Pediatrics, Non-Chronic	

Appropriate Treatment for Children with Upper Respiratory Infection Measure Antibiotic Medications List			
Description	Prescription		
Aminopenicillins	Amoxicillin	Ampicillin	
Beta-lactamase inhibitors	Amoxicillin-clavulanate		
First generation cephalosporins	Cefadroxil	Cefazolin	Cephalexin
Folate antagonist	Trimethoprim		
Lincomycin derivatives	Clindamycin		
Macrolides	Azithromycin Clarithromycin	Erythromycin Erythromycin ethylsuccinate	Erythromycin lactobionate Erythromycin stearate
Natural penicillins	Penicillin G potassium Penicillin G sodium	Penicillin V potassium	
Penicillinase-resistant penicillins	Dicloxacillin		
Quinolones	Ciprofloxacin Levofloxacin	Moxifloxacin Ofloxacin	
Second generation cephalosporins	Cefaclor Cefprozil	Cefuroxime	
Sulfonamides	Sulfamethoxazole-trimethoprim		
Tetracyclines	Doxycycline	Minocycline	Tetracycline
Third generation cephalosporins	Cefdinir Cefixime	Cefpodoxime Ceftibuten	Cefditoren Ceftriaxone

Well-Child Visits in the First 15 Months of Life	
Measure acronym: <i>W15</i>	Measure category: <i>Utilization and Risk Adjusted Utilization/Utilization</i>
Description: The percentage of infants who turned 15 months old during the measurement year, and who had the following number of well-child visits with a PCP during their first 15 months of life: <ul style="list-style-type: none"> • No well-child visits • One well-child visit • Two well-child visits • Three well-child visits • Four well-child visits • Five well-child visits • Six or more well-child visits 	
Administrative specification:	
Denominator	Members who turned 15 months of life during the measurement year. Members in hospice are excluded from denominator.
Numerator	Members who had seven separate visits/numerators, corresponding to the number of members who received 0, 1, 2, 3, 4, 5, 6 or more well-child visits with a PCP, on different dates of service, on or before the child's 15-month birthday.

	The well-child visit must occur with a PCP, but the PCP does not have to be the practitioner assigned to the child.
Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	31 days–15 months of age. No more than one gap in enrollment of up to 45 days during the continuous enrollment period.
Risk adjustment: None	
Managing provider attribution: P	
Data collection approach: Aetna claims data, measurement year plus 3 months runout	
Population: Pediatrics	
Measure type: Pediatrics	

Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life	
Measure acronym: <i>W34</i>	Measure category: <i>Utilization and Risk Adjusted Utilization/ Utilization</i>
Description: The percentage of members aged 3 years to 6 years of who had one or more well-child visits with a PCP during the measurement year.	
Administrative specification:	
Denominator	Members aged 3 years to 6 years as of December 31 of the measurement year. Members in hospice are excluded from denominator.
Numerator	Members with at least one well-child visit with a PCP during the measurement year. The well-child visit must occur with a PCP, but the PCP does not have to be the practitioner assigned to the child.
Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	The measurement year of 12 months. No more than one gap in enrollment of up to 45 days during the continuous enrollment period.
Risk adjustment: None	
Managing provider attribution: P	
Data collection approach: Aetna claims data, measurement year plus 3 months runout	
Population: Pediatrics	
Measure type: Pediatrics	

Statin Therapy for Patients with Diabetes	
Measure acronym: <i>SPD</i>	Measure category: <i>Effectiveness of Care/Diabetes</i>
Description:	

<p>The percentage of members aged 40 years to 75 years during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD) who met the following criteria. Two rates are reported:</p> <ol style="list-style-type: none"> 1. <i>Received Statin Therapy</i>. Members who were dispensed at least one statin medication of any intensity during the measurement year. 2. <i>Statin Adherence 80%</i>. Members who remained on a statin medication of any intensity for at least 80% of the treatment period. 	
<p>Received Statin Therapy Administrative specification:</p>	
<p>Denominator</p>	<p>Members aged 40 years to 75 years during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD)</p>
<p>Denominator exclusions</p>	<p>Exclude members who meet any of the following criteria:</p> <ul style="list-style-type: none"> • Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: <ul style="list-style-type: none"> – Enrolled in an Institutional SNP (I-SNP) any time during the measurement year. – Living long-term in an institution any time during the measurement year • Members 66–80 years of age as of December 31 of the measurement year with frailty and advanced illness. Members must meet both of the following frailty and advanced illness criteria to be excluded: <ul style="list-style-type: none"> – At least one claim/encounter for frailty – Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis • Members 81 years of age and older as of December 31 of the measurement year with frailty during the measurement year. • Members in hospice or using hospice services • A dispensed dementia medication • Members with cardiovascular disease during the measurement year and year prior to measurement year • Pregnant members during the measurement year and year prior to the measurement year • Members undergoing invitro fertilization during the measurement year and the year prior to the measurement year • Members dispensed at least one prescription for clomiphene during the measurement year or year prior to the measurement year • Members with ESRD during the measurement year and year prior to the measurement year • Members with cirrhosis during the measurement year and year prior to the measurement year

	<ul style="list-style-type: none"> Members with myalgia, myositis, myopathy, or rhabdomyolysis during the measurement year
Numerator	Members who were dispensed at least one statin medication of any intensity during the measurement year.
Product lines & benefit	Commercial Medical, Pharmacy during the measurement year.
Continuous enrollment & allowable gap	The measurement year of 12 months. No more than one gap in enrollment of up to 45 days during each year of continuous enrollment.

Statin Adherence of 80%	
Administrative specification:	
Denominator	Members aged 40 years to 75 years during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD)
Denominator exclusions	<p>Exclude members who meet any of the following criteria:</p> <ul style="list-style-type: none"> Medicare members 66 years of age and older as of December 31 of the measurement year who meet either of the following: <ul style="list-style-type: none"> Enrolled in an Institutional SNP (I-SNP) any time during the measurement year. Living long-term in an institution any time during the measurement year Members 66–80 years of age as of December 31 of the measurement year with frailty and advanced illness. Members must meet both of the following frailty and advanced illness criteria to be excluded: <ul style="list-style-type: none"> At least one claim/encounter for frailty Any of the following during the measurement year or the year prior to the measurement year (count services that occur over both years): At least two outpatient visits, observation visits, ED visits, nonacute inpatient encounters or nonacute inpatient discharges (instructions below) on different dates of service, with an advanced illness diagnosis Members 81 years of age and older as of December 31 of the measurement year with frailty during the measurement year. Members in hospice or using hospice services A dispensed dementia medication Members with cardiovascular disease during the measurement year and year prior to measurement year Pregnant members during the measurement year and year prior to the measurement year Members undergoing invitro fertilization during the measurement year and the year prior to the measurement year Members dispensed at least one prescription for clomiphene during the measurement year or year prior to the measurement year

	<ul style="list-style-type: none"> Members with ESRD during the measurement year and year prior to the measurement year Members with cirrhosis during the measurement year and year prior to the measurement year <p>Members with myalgia, myositis, myopathy, or rhabdomyolysis during the measurement year</p>
Numerator	Members who remained on a statin medication of any intensity for at least 80% of the treatment period.
Product lines & benefit	Commercial Medical, Pharmacy during the measurement year.
Continuous enrollment & allowable gap	The measurement year of 12 months. No more than one gap in enrollment of up to 45 days during each year of continuous enrollment.

Risk adjustment: None

Managing provider attribution: FP, I

Data collection approach: Aetna claims data, measurement year plus 3 months runout

Measure type: Chronic

Statin Therapy for Patients with Diabetes Measure Diabetes Medications List

Description	Prescription		
Alpha-glucosidase inhibitors	Acarbose	Miglitol	
Amylin analogs	Pramlintide		
Antidiabetic combinations	Alogliptin-metformin Alogliptin-pioglitazone Canagliflozin-metformin Dapagliflozin-metformin Empagliflozin-linagliptin Empagliflozin-metformin Glimepiride-pioglitazone	Glipizide-metformin Glyburide-metformin Linagliptin-metformin Metformin-pioglitazone Metformin-repaglinide Metformin-rosiglitazone	Metformin-saxagliptin Metformin-sitagliptin
Insulin	Insulin aspart Insulin aspart-insulin aspartprotamine Insulin degludec Insulin detemir Insulin glargine Insulin glulisine	Insulin isophane human Insulin isophane-insulin regular Insulin lispro Insulin lispro-insulin lispro protamine Insulin regular human Insulin human inhaled	
Meglitinides	Nateglinide	Repaglinide	
Glucagon-like peptide-1 (GLP1) agonists	Dulaglutide Liraglutide	Albiglutide	Exenatide
Sodium glucose cotransporter 2 (SGLT2) inhibitor	Canagliflozin	Dapagliflozin	Empagliflozin

Sulfonylureas	Chlorpropamide Glimepiride	Glyburide Glipizide	Tolazamide Tolbutamide
Thiazolidinediones	Pioglitazone	Rosiglitazone	
Dipeptidyl peptidase-4 (DDP-4) inhibitors	Alogliptin Saxagliptin	Linagliptin Sitagliptin	

Statin Therapy for Patients With Diabetes Measure High and Moderate-Intensity Statin Medications List

Description	Prescription	
High-intensity statin therapy	Atorvastatin 40–80 mg Amlodipine-atorvastatin 40–80 mg	Rosuvastatin 20–40 mg Simvastatin 80 mg Ezetimibe-simvastatin 80 mg
Moderate-intensity statin therapy	Atorvastatin 10–20 mg Amlodipine-atorvastatin 10–20 mg Rosuvastatin 5–10 mg Simvastatin 20–40 mg Ezetimibe-simvastatin 20–40 mg	Pravastatin 40–80 mg Lovastatin 40 mg Fluvastatin XL 80 mg Fluvastatin 40 mg bid Pitavastatin 2–4 mg

Statin Therapy for Patients With Diabetes Measure Low-Intensity Statin Medications List

Description	Prescription	
Low-intensity statin therapy	Simvastatin 10 mg Ezetimibe-simvastatin 10 mg Pravastatin 10–20 mg	Lovastatin 20 mg Fluvastatin 20–40 mg Pitavastatin 1 mg

Statin Therapy for Patients With Diabetes Measure Estrogen Agonists Medications List

Description	Prescription
Estrogen agonists	Clomiphene

Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents

Measure acronym: WCC	Measure category: Prevention and Screening
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Description:

The percentage of members 3–17 years of age who had an outpatient visit with a PCP or OB/GYN and who had evidence of the following during the measurement year.

- BMI percentile documentation*
- Counseling for nutrition
- Counseling for physical activity

*Because BMI norms for youth vary with age and gender, this measure evaluates whether BMI percentile is assessed rather than an absolute BMI value.

Administrative specification:

Denominator	Members 3–17 years as of December 31 of the measurement year who had an outpatient visit with a PCP or an Ob/Gyn during the measurement year. Exclude members who had a pregnancy during the measurement year.
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Numerator	<ul style="list-style-type: none"> • BMI percentile during the measurement year. The percentile ranking based on the CDC BMI-for-age growth charts, which indicates the relative position of the patient's BMI number among others of the same gender and age • Counseling for nutrition during the measurement year. • Counseling for physical activity during the measurement year.
Product lines & benefit	Commercial Medical during the measurement year.
Continuous enrollment & allowable gap	Measurement year No more than one gap in enrollment of up to 45 days during each year of continuous enrollment.
Risk adjustment: None	
Managing provider attribution: P	
Data collection approach: Aetna claims data, measurement year plus 3 months runout	
Population: Pediatrics	
Measure type: Pediatrics	

Appendix A: Empirical Bayesian approach

The empirical Bayesian approach is used to identify statistical significance of a provider groups results for quality and risk-adjusted utilization measures, for each population. The following are the steps used to calculate the statistical significance:

1. Calculate the observed risk adjusted utilization measures rates per 1,000 and the observed rate for each HEDIS quality measure.
2. For utilization measures , risk adjust observed utilization measures by dividing the observed utilization measures rate per 1,000 by the risk score.
3. Adjust observed rates for risk-adjusted utilization measures and quality using empirical Bayesian approach:
 - a. Calculate the weighted national average and weighted national average variance for each risk adjusted utilization measure and quality measure
 - b. Calculate TIN-measure level variance per TIN for each risk-adjusted utilization measure and quality measure assuming Poisson distribution on original counts (i.e.: # of acute admits per 1,000, number of denominators in the quality measure)
 - c. Update observed metrics based on national average, national variance, and TIN-measure variance (i.e.: small TIN >less confident of observed metrics>larger variance>adjust more to national average)
 - d. Update TIN-measure level variance based on national variance and TIN-measure variance
 - e. Calculate the TIN-measure level Bayesian predictive variance based on the TIN-measure level variance, updated TIN-measure level variance and TIN size
4. Calculate an expected value for each measure after Bayesian adjustment as weighted national average risk-adjusted value.
 - a. Only members attributed to TINs with at least 25 attributed members within target age groups are used to set the benchmark.
5. Calculate measure level O/E score by dividing observed risk-adjusted performance by expected risk-adjusted performance.
 - a. Calculate the variance for measure-level O/E based on the Bayesian predictive variance.
6. Calculate the TIN-level adjusted O/E.
 - a. For risk-adjusted utilization measure, TIN-level adjusted O/E is calculated as the weighted average of measure level adjusted O/E scores (weights applied as described in risk adjusted utilization measure and scoring section).
 - b. For quality measures, TIN-level O/E are calculated for each domain by averaging the O/E of the measures in that domain. TIN-level overall O/E is calculated by averaging the domain O/E.
 - c. Calculate the variance for TIN-level O/E based on the TIN-level variance assuming independence between measures.
7. Construct TIN-level Bayesian credible interval for adjusted O/E.95% credible interval used for efficiency; 90% credible interval used for quality.
 - a. Calculate lower bound and upper bound of the credible interval based on TIN-level adjusted O/E score and TIN-level O/E variance.

8. Apply statistical test to identify providers who are better than the benchmark in a way that is statistically significant.
 - a. If the lower bound of CI is higher than 1 for risk adjusted utilization measure, then ISS. If the lower bound for CI is lower than 1 for quality, then ISS.
 - b. If the upper bound of the CI is lower than 1 for risk adjusted utilization measure, then ESS. If the upper bound for the CI is higher than 1 for quality, then ESS.
 - c. Else NSS.

Appendix B: Hospital referral regions (HRRs)

hrrnum	hrrcity	hrrstate
10	Anchorage	AK
1	Birmingham	AL
2	Dothan	AL
5	Huntsville	AL
6	Mobile	AL
7	Montgomery	AL
9	Tuscaloosa	AL
16	Fort Smith	AR
18	Jonesboro	AR
19	Little Rock	AR
21	Springdale	AR
22	Texarkana	AR
11	Mesa	AZ
12	Phoenix	AZ
14	Sun City	AZ
15	Tucson	AZ
23	Orange County	CA
25	Bakersfield	CA
31	Chico	CA
33	Contra Costa County	CA
43	Fresno	CA
56	Los Angeles	CA
58	Modesto	CA
62	Napa	CA
65	Alameda County	CA
	Palm Springs/Rancho	
69	Mira	CA
73	Redding	CA
77	Sacramento	CA
78	Salinas	CA
79	San Bernardino	CA
80	San Diego	CA
81	San Francisco	CA
82	San Jose	CA
83	San Luis Obispo	CA
85	San Mateo County	CA
86	Santa Barbara	CA
87	Santa Cruz	CA
89	Santa Rosa	CA
91	Stockton	CA
96	Ventura	CA
101	Boulder	CO
102	Colorado Springs	CO
103	Denver	CO

104	Fort Collins	CO
105	Grand Junction	CO
106	Greeley	CO
107	Pueblo	CO
109	Bridgeport	CT
110	Hartford	CT
111	New Haven	CT
113	Washington	DC
112	Wilmington	DE
115	Bradenton	FL
116	Clearwater	FL
118	Fort Lauderdale	FL
119	Fort Myers	FL
120	Gainesville	FL
122	Hudson	FL
123	Jacksonville	FL
124	Lakeland	FL
127	Miami	FL
129	Ocala	FL
130	Orlando	FL
131	Ormond Beach	FL
133	Panama City	FL
134	Pensacola	FL
137	Sarasota	FL
139	St. Petersburg	FL
140	Tallahassee	FL
141	Tampa	FL
142	Albany	GA
144	Atlanta	GA
145	Augusta	GA
146	Columbus	GA
147	Macon	GA
148	Rome	GA
149	Savannah	GA
150	Honolulu	HI
190	Cedar Rapids	IA
191	Davenport	IA
192	Des Moines	IA
193	Dubuque	IA
194	Iowa City	IA
195	Mason City	IA
196	Sioux City	IA
197	Waterloo	IA
151	Boise	ID
152	Idaho Falls	ID
154	Aurora	IL
155	Blue Island	IL

156	Chicago	IL
158	Elgin	IL
161	Evanston	IL
163	Hinsdale	IL
164	Joliet	IL
166	Melrose Park	IL
170	Peoria	IL
171	Rockford	IL
172	Springfield	IL
173	Urbana	IL
175	Bloomington	IL
179	Evansville	IN
180	Fort Wayne	IN
181	Gary	IN
183	Indianapolis	IN
184	Lafayette	IN
185	Muncie	IN
186	Munster	IN
187	South Bend	IN
188	Terre Haute	IN
200	Topeka	KS
201	Wichita	KS
203	Covington	KY
204	Lexington	KY
205	Louisville	KY
207	Owensboro	KY
208	Paducah	KY
209	Alexandria	LA
210	Baton Rouge	LA
212	Houma	LA
213	Lafayette	LA
214	Lake Charles	LA
216	Metairie	LA
217	Monroe	LA
218	New Orleans	LA
219	Shreveport	LA
220	Slidell	LA
227	Boston	MA
230	Springfield	MA
231	Worcester	MA
223	Baltimore	MD
225	Salisbury	MD
226	Takoma Park	MD
221	Bangor	ME
222	Portland	ME
232	Ann Arbor	MI
233	Dearborn	MI

234	Detroit	MI
235	Flint	MI
236	Grand Rapids	MI
238	Kalamazoo	MI
239	Lansing	MI
240	Marquette	MI
242	Muskegon	MI
243	Petoskey	MI
244	Pontiac	MI
245	Royal Oak	MI
246	Saginaw	MI
248	St. Joseph	MI
249	Traverse City	MI
250	Duluth	MN
251	Minneapolis	MN
253	Rochester	MN
254	St. Cloud	MN
256	St. Paul	MN
263	Cape Girardeau	MO
264	Columbia	MO
267	Joplin	MO
268	Kansas City	MO
270	Springfield	MO
273	St. Louis	MO
257	Gulfport	MS
258	Hattiesburg	MS
259	Jackson	MS
260	Meridian	MS
261	Oxford	MS
262	Tupelo	MS
274	Billings	MT
275	Great Falls	MT
276	Missoula	MT
309	Asheville	NC
311	Charlotte	NC
312	Durham	NC
313	Greensboro	NC
314	Greenville	NC
315	Hickory	NC
318	Raleigh	NC
319	Wilmington	NC
320	Winston-Salem	NC
321	Bismarck	ND
322	Fargo/Moorhead MN	ND
323	Grand Forks	ND
324	Minot	ND
277	Lincoln	NE

278	Omaha	NE
281	Lebanon	NH
282	Manchester	NH
283	Camden	NJ
284	Hackensack	NJ
285	Morristown	NJ
288	New Brunswick	NJ
289	Newark	NJ
291	Paterson	NJ
292	Ridgewood	NJ
293	Albuquerque	NM
279	Las Vegas	NV
280	Reno	NV
295	Albany	NY
296	Binghamton	NY
297	Bronx	NY
299	Buffalo	NY
300	Elmira	NY
301	East Long Island	NY
303	Manhattan	NY
304	Rochester	NY
307	Syracuse	NY
308	White Plains	NY
325	Akron	OH
326	Canton	OH
327	Cincinnati	OH
328	Cleveland	OH
329	Columbus	OH
330	Dayton	OH
331	Elyria	OH
332	Kettering	OH
334	Toledo	OH
335	Youngstown	OH
336	Lawton	OK
339	Oklahoma City	OK
340	Tulsa	OK
341	Bend	OR
342	Eugene	OR
343	Medford	OR
344	Portland	OR
345	Salem	OR
346	Allentown	PA
347	Altoona	PA
350	Danville	PA
351	Erie	PA
352	Harrisburg	PA
354	Johnstown	PA

355	Lancaster	PA
356	Philadelphia	PA
357	Pittsburgh	PA
358	Reading	PA
359	Sayre	PA
360	Scranton	PA
362	Wilkes-Barre	PA
363	York	PA
364	Providence	RI
365	Charleston	SC
366	Columbia	SC
367	Florence	SC
368	Greenville	SC
369	Spartanburg	SC
370	Rapid City	SD
371	Sioux Falls	SD
373	Chattanooga	TN
374	Jackson	TN
375	Johnson City	TN
376	Kingsport	TN
377	Knoxville	TN
379	Memphis	TN
380	Nashville	TN
382	Abilene	TX
383	Amarillo	TX
385	Austin	TX
386	Beaumont	TX
388	Bryan	TX
390	Corpus Christi	TX
391	Dallas	TX
393	El Paso	TX
394	Fort Worth	TX
396	Harlingen	TX
397	Houston	TX
399	Longview	TX
400	Lubbock	TX
402	McAllen	TX
406	Odessa	TX
411	San Angelo	TX
412	San Antonio	TX
413	Temple	TX
416	Tyler	TX
417	Victoria	TX
418	Waco	TX
420	Wichita Falls	TX
421	Ogden	UT
422	Provo	UT

423	Salt Lake City	UT
426	Arlington	VA
427	Charlottesville	VA
428	Lynchburg	VA
429	Newport News	VA
430	Norfolk	VA
431	Richmond	VA
432	Roanoke	VA
435	Winchester	VA
424	Burlington	VT
437	Everett	WA
438	Olympia	WA
439	Seattle	WA
440	Spokane	WA
441	Tacoma	WA
442	Yakima	WA
446	Appleton	WI
447	Green Bay	WI
448	La Crosse	WI
449	Madison	WI
450	Marshfield	WI
451	Milwaukee	WI
452	Neenah	WI
456	Wausau	WI
443	Charleston	WV
444	Huntington	WV
445	Morgantown	WV
457	Casper	WY

Appendix C: ETG code list with condition category

ETG Code	ETG Cd Short Description	Adult Condition Category	Pediatric Condition Category
130100100	AIDS, w comp, wo comorb, wo s	Chronic	
130100110	AIDS, w comp, w comorb, wo s	Chronic	
130400100	Septicemia, w comp, wo surg	Non-Chronic	
130600000	Oth infect dis, wo c,wo cm,wo s	Non-Chronic	Pediatrics
130600010	Oth infect dis, wo c,w cm,wo s	Non-Chronic	Pediatrics
130600100	Oth infect dis, w c,wo cm,wo s	Non-Chronic	Pediatrics
130600110	Oth infect dis, w c,w cm, wo s	Non-Chronic	Pediatrics
139900000	Infect disease S&S	Non-Chronic	
162100000	Hyper-funct thyroid gland,wo s	Non-Chronic	
162200000	Hypo-funct thyroid, wo c, wo s	Chronic	Pediatrics
162200100	Hypo-funct thyroid, w c, wo s	Chronic	
162300000	Non-toxic goiter, wo surg	Non-Chronic	
162600000	Oth disease thyroid, wo surg	Non-Chronic	Pediatrics
163000000	Diabetes, wo c, wo cm, wo surg	Chronic	Pediatrics
163000010	Diabetes, wo c, w cm, wo surg	Chronic	
163000110	Diabetes, w c, w cm, wo surg	Chronic	
163600000	Hypo-funct adrenal gland, wo s	Chronic	
163900000	Hyper-funct parathyroid, wo s	Chronic	
164400000	Male sex gland disorder, wo s	Chronic	
164500000	Nutrition deficien,wo cm, wo s	Non-Chronic	Pediatrics
164500010	Nutrition deficien, w cm, wo s	Non-Chronic	Pediatrics
164600000	Gout, wo surg	Chronic	
164700000	Hyperlipidemia, other	Chronic	Pediatrics
164800000	Obesity, wo comp, wo surg	Chronic	Pediatrics
164800100	Obesity, w comp, wo surg	Chronic	Pediatrics
165100000	Oth met dis/exc CF/wo cm, wo s	Chronic	Pediatrics
165100010	Oth met dis/exc CF/w cm, wo s	Chronic	Pediatrics
169900000	Endocrine disease S&S	Chronic	
208200000	Iron def anemia, wo comp,wo cm	Chronic	Pediatrics
208200010	Iron def anemia, wo comp, w cm	Chronic	
208200100	Iron def anemia, w comp, wo cm	Chronic	Pediatrics
208200110	Iron def anemia, w comp, w cm	Chronic	
208900000	Oth hematologic dis, wo surg	Chronic	
238800000	Mood dis/depressed, wo c,wo cm	Chronic	Pediatrics
238800010	Mood dis/depressed, wo c, w cm	Chronic	Pediatrics
238800110	Mood dis/depressed, w c, w cm	Chronic	
238900000	Mood dis/bipolar, wo c, wo cm	Chronic	Pediatrics

238900010	Mood dis/bipolar, wo c, w cm	Chronic	
239000000	Dementia	Chronic	
239200000	Autism & child psychoses	Chronic	Pediatrics
239300000	Psych & schizo dis, wo c,wo cm	Chronic	
239300010	Psych & schizo dis, wo c, w cm	Chronic	
239300100	Psych & schizo dis, w c, wo cm	Chronic	
239300110	Psych & schizo dis, w c, w cm	Chronic	
239700000	Eating disorder	Chronic	Pediatrics
239800000	Anxiety disorder/ phobia, wo c	Chronic	Pediatrics
239800100	Anxiety disorder/ phobia, w c	Chronic	Pediatrics
240000000	Psychosexual disorder	Chronic	
240100000	Attention deficit dis, wo c	Chronic	Pediatrics
240100100	Attention deficit dis, w c	Chronic	
240200000	Development disorder	Chronic	Pediatrics
271400000	Alcohol dependence, wo comorb	Chronic	
271400010	Alcohol dependence, w comorb	Chronic	
271500000	Opioid/barbituate depend,wo cm	Chronic	
271500010	Opioid/barbituate depend, w cm	Chronic	
271600000	Other drug dependence, wo cm	Chronic	
271600010	Other drug dependence,w comorb	Chronic	
316000000	CVA, wo c, wo cm, wo surg	Chronic	
316000010	CVA, wo comp,w comorb, wo surg	Chronic	
316000110	CVA, w comp, w comorb, wo surg	Chronic	
316300000	Brain trauma, wo c,wo cm, wo s	Chronic	
316300010	Brain trauma, wo c, w cm, wo s	Chronic	
316300110	Brain trauma, w c, w cm, wo s	Chronic	
316400000	Alzheimer's disease	Chronic	
316700010	Oth hered/degen CNS, w cm,wo s	Chronic	Pediatrics
316800000	Parkinson's disease, wo surg	Chronic	
386500000	Isch hrt dis, wo c, wo cm,wo s	Chronic	
386500010	Isch hrt dis, wo c, w cm, wo s	Chronic	
386500110	Isch hrt dis, w c, w cm, wo s	Chronic	
386600000	Pulmonary hrt disease, wo surg	Chronic	
386800010	CHF, wo comp, w comorb,wo surg	Chronic	
386800110	CHF, w comp, w comorb, wo surg	Chronic	
387100010	Heart fail/dias,wo c,w cm,wo s	Chronic	
387400010	Valve dis, wo c, w cm, wo s	Chronic	
387400100	Valve dis, w c, wo cm, wo s	Chronic	
387400110	Valve dis, w c, w cm, wo s	Chronic	
387500000	Severe ventricular rhythm	Chronic	

387700000	Oth conduction dis, wo c,wo cm	Chronic	
387700010	Oth conduction dis, wo c, w cm	Chronic	
387700100	Oth conduction dis, w c, wo cm	Chronic	
387700110	Oth conduction dis, w c, w cm	Chronic	
387800100	A-fib& flutter, w c,wo cm,wo s	Chronic	
387800110	A-fib& flutter, w c, w cm,wo s	Chronic	
388100000	Hypertension, wo c, wo cm	Chronic	
388100010	Hypertension, wo comp,w comorb	Chronic	
388100100	Hypertension, w comp,wo comorb	Chronic	
388100110	Hypertension, w comp, w comorb	Chronic	
390300000	Emb & thromb veins, wo c, wo s	Chronic	
390300100	Emb & thromb veins, w c, wo s	Chronic	
390500000	Phleb & thromboph veins, wo s	Non-Chronic	
402000000	Infection oral cavity, wo surg	Non-Chronic	
402200000	Inflam oral cavity, wo surg	Non-Chronic	
402900000	Otitis, wo c, wo cm,wo s	Non-Chronic	Pediatrics
402900100	Otitis media, w c, wo cm, wo s	Non-Chronic	Pediatrics
403100000	T&A or phary, wo c, wo cm,wo s	Non-Chronic	Pediatrics
403100100	T&A or phary, w c, wo cm, wo s	Non-Chronic	Pediatrics
403200000	Allergic rhinitis, wo surg	Non-Chronic	Pediatrics
403300000	Acute sinusitis, wo surg	Non-Chronic	Pediatrics
403500000	Chronic sinusitis, wo cm, wo s	Chronic	Pediatrics
403500010	Chronic sinusitis, w cm, wo s	Chronic	Pediatrics
403700000	Other ENT infection, wo surg	Non-Chronic	Pediatrics
409900000	Otolaryngology disease S&S	Non-Chronic	Pediatrics
437200000	Viral pneumonia, wo comorb	Non-Chronic	Pediatrics
437200010	Viral pneumonia, w comorb	Non-Chronic	Pediatrics
437400000	Bact lung infect, wo c, wo cm	Non-Chronic	Pediatrics
437400010	Bact lung infect, wo c, w cm	Non-Chronic	Pediatrics
437400100	Bact lung infect, w c, wo cm	Non-Chronic	Pediatrics
437400110	Bact lung infection, w c, w cm	Non-Chronic	Pediatrics
438300000	Acute bronchitis, wo comorb	Non-Chronic	Pediatrics
438300010	Acute bronchitis, w comorb	Non-Chronic	Pediatrics
438800000	Asthma, wo comp, wo comorb	Chronic	Pediatrics
438800010	Asthma, wo comp, w comorb	Chronic	Pediatrics
438800100	Asthma, w comp, wo comorb	Chronic	Pediatrics
438800110	Asthma, w comp, w comorb	Chronic	Pediatrics
439300010	COPD, wo c, w cm, wo surg	Chronic	
439300110	COPD, w comp, w comorb,wo surg	Chronic	
439700010	Occ/envir pulm dis, w cm, wo s	Chronic	
439800000	Oth inflam lung disease, wo s	Chronic	

441000000	Pulmonary embolism	Non-Chronic	
449900000	Pulmonology disease S&S	Non-Chronic	Pediatrics
473300000	Inflam esoph, wo c, wo cm, wo s	Non-Chronic	Pediatrics
473300010	Inflam esoph, wo c, w cm, wo s	Non-Chronic	Pediatrics
473300110	Inflam esoph, w c, w cm, wo s	Non-Chronic	
473500000	Gastritis/duod, wo c, wo cm, wo s	Non-Chronic	Pediatrics
473500010	Gastritis/duod, wo c, w cm, wo s	Non-Chronic	
473800000	Ulcer, wo c, wo cm, wo surg	Non-Chronic	
473800010	Ulcer, wo c, w cm, wo surg	Non-Chronic	
473800110	Ulcer, w c, w cm, wo surg	Non-Chronic	
475000000	Oth infect dis intest/abd, wo s	Chronic	Pediatrics
475200000	Infl intes/abd, wo c, wo cm, wo s	Chronic	Pediatrics
475200010	Infl intes/abd, wo c, w cm, wo s	Chronic	Pediatrics
521400000	Infect hepatitis, wo c, wo cm	Chronic	
521400010	Infectious hepatitis, wo c, w cm	Chronic	
521600000	Non-infectious hepatitis, wo c	Chronic	
521800010	Cirrhosis, wo c, w cm, wo surg	Chronic	
521800110	Cirrhosis, w c, w cm, wo surg	Chronic	
521900000	Acute pancreatitis, wo surg	Non-Chronic	
522000000	Chronic pancreatitis, wo surg	Chronic	
529900000	Hepatology disease S&S	Non-Chronic	
555400010	Chr renal failure, wo c, w cm	Chronic	
555400110	Chronic renal failure, w c, w cm	Chronic	
587100000	Infection upper GU sys, wo surg	Non-Chronic	Pediatrics
666800000	Contact dermatitis	Non-Chronic	Pediatrics
667200000	Minor bact skin inf, wo c, wo cm	Non-Chronic	Pediatrics
667200010	Minor bact skin inf, wo c, w cm	Non-Chronic	Pediatrics
667200100	Minor bact skin inf, w c, wo cm	Non-Chronic	Pediatrics
667200110	Minor bact skin inf, w c, w cm	Non-Chronic	
667600000	Parasitic skin infection	Non-Chronic	Pediatrics
668700000	Burns, wo c, wo cm, wo surg	Non-Chronic	Pediatrics
668700010	Burns, wo c, w cm, wo surg	Non-Chronic	Pediatrics
669900000	Dermatological S&S	Non-Chronic	Pediatrics
711600000	Lupus, wo comorb	Chronic	Pediatrics
712000000	Osteoporosis	Chronic	Pediatrics
779200000	Non-routine inoculation	Non-Chronic	Pediatrics
779400000	Routine exam	Non-Chronic	Pediatrics
779700000	Conditional exam	Non-Chronic	Pediatrics
316900000	Migraine headache, wo c, wo cm		Pediatrics
350400000	Conjunctivitis		Pediatrics
404100000	Oth ENT inflam, wo c, wo cm, wo s		Pediatrics
405300000	Other ENT disorders, wo surg		Pediatrics
476400000	Irritable bowel syndrome		Pediatrics

476600000	Hernias exc hiatal, wo c, wo s	Pediatrics
476900000	Oth dis intest & abdom, wo s	Pediatrics
477600000	Inflam rect or anus, wo surg	Pediatrics
587400000	Inf low GU, not STD,wo c,wo cm	Pediatrics
587400010	Inf low GU, not STD,wo c,w cm	Pediatrics
587400100	Inf low GU, not STD,w c,wo cm	Pediatrics
633900000	Monilial infection of vagina	Pediatrics
634000000	Infection vagina exc monilial	Pediatrics
634900000	Menstrual condition, wo c,wo s	Pediatrics
634900100	Menstrual condition, w c, wo s	Pediatrics
666800000	Contact dermatitis	Pediatrics
667200000	Minor bact skin inf,wo c,wo cm	Pediatrics
667200010	Minor bact skin inf,wo c,w cm	Pediatrics
667200100	Minor bact skin inf,w c,wo cm	Pediatrics
667300000	Viral skin infection	Pediatrics
667500000	Fungal skin infection	Pediatrics
667800000	Oth skin inflam, wo c, wo cm	Pediatrics
667800010	Oth skin inflam, wo c, w cm	Pediatrics
711910000	Maj jt infl -other, wo surg	Pediatrics
779000000	Exposure to infectious disease	Pediatrics
821200000	Poison/toxic drug effect,wo cm	Pediatrics

Appendix D: Health profile database (HPD) conditions

Health Profile Monitor Disease Code List
ADHD and other Childhood Disruptive Disorders
Alcoholism
Allergy
Anxiety
Asthma
Atrial Fibrillation
Attention Deficit Disorder
Autism
Benign Prostatic Hypertrophy
Bipolar
Bladder Cancer
Brain Cancer
Breast Cancer
Cataract
Cerebrovascular Disease
Cervical Cancer
Cholelithiasis/Cholecystitis
Chronic Fatigue Syndrome
Chronic Obstructive Pulmonary Disease
Chronic Renal Failure
Chronic Thyroid Disorders
Colorectal Cancer
Congenital Heart Disease
Cystic Fibrosis
Dementia
Depression
Diabetes Mellitus
Diverticular Disease
Down's Syndrome
Eating Disorders
Endometrial Cancer
Endometriosis
Epilepsy
Esophageal Cancer
Female Infertility
Fibromyalgia
Glaucoma
Head/Neck Cancer
Heart Failure
Hemophilia/Congenital Coagulopathies
Hepatitis
HIV/AIDS
Hodgkin's Disease/Lymphoma
Hypercoagulable Syndrome

Hyperlipidemia
Hypertension
Inflammatory Bowel Disease
Iron Deficiency Anemia
Ischemic Heart Disease
Kidney Stones
Leukemia/Myeloma
Low Back Pain
Low Vision and Blindness
Lung Cancer
Lyme Disease
Malignant Melanoma
Maternal Hist of Low Birth Weight or Preterm Birth
Menopause
Metabolic Syndrome
Migraine and Other Headaches
Multiple Sclerosis
Neurosis
Nonspecific Gastritis/Dyspepsia
Obesity
Oral Cancer
Osteoarthritis
Osteoporosis
Other Cancer
Otitis Media
Ovarian Cancer
Pancreatic Cancer
Pancreatitis
Parkinson's Disease
Peptic Ulcer Disease
Periodontal Disease
Peripheral Artery Disease
Post Partum BH Disorder
Prostate Cancer
Psychiatric Disorders related to Med Conditions
Psychoses
Rheumatoid Arthritis
Sickle Cell Anemia
Skin Cancer
Stomach Cancer
Substances Related Disorders
Systemic Lupus Erythematosus
Ventricular Arrhythmia

Appendix E: PCP effectiveness (episode) performance evaluation example

This provides an example of the evaluation of practice performance for the episode-based effectiveness metric.

Below is a fictional example for ABC Medical Group to illustrate how the calculation works. This example will walk through the scoring process for ABC Medical Group’s commercial adult population.

Table 1 – ABC Medical Group Commercial Adult episode data

Row number	ETG code	A	B	C	D	E
		HRR market	Total actual allowed amount	Total benchmark allowed amount	Episode-level performance index	Market-adjusted episode-level performance index
1	164800000	119	\$360	\$383	0.94	0.94
2	164800000	119	\$82	\$153	0.54	0.54
3	164800000	119	\$82	\$165	0.50	0.50
4	164800000	119	\$227	\$165	1.37	1.37
5	164800000	119	\$223	\$230	0.97	0.97
6	164800000	119	\$82	\$230	0.36	0.36
7	164800000	119	\$332	\$327	1.02	1.01
8	164800000	119	\$239	\$327	0.73	0.73
9	164800000	119	\$292	\$327	0.89	0.89
10	164800000	119	\$101	\$327	0.31	0.31
11	164800000	119	\$221	\$327	0.68	0.68
12	164800000	119	\$468	\$333	1.40	1.40
13	164800100	119	\$297	\$313	0.95	0.94
14	164800100	119	\$309	\$435	0.71	0.71
15	164800100	119	\$122	\$435	0.28	0.28
16	164800100	119	\$302	\$390	0.78	0.77
17	164800100	119	\$250	\$390	0.64	0.64
18	164800100	119	\$277	\$390	0.71	0.71
19	164800100	119	\$528	\$390	1.35	1.35
20	164800100	119	\$366	\$390	0.94	0.93
21	164800100	119	\$893	\$603	1.48	1.48
22	164800100	119	\$942	\$470	2.00	2.00
23	164800100	119	\$414	\$529	0.78	0.78
24	164800100	119	\$108	\$803	0.13	0.13
25	164800100	119	\$594	\$348	1.70	1.70
26	239800100	119	\$178	\$209	0.85	0.85
27	387400110	119	\$1,465	\$854	1.72	1.71
28	388100010	119	\$261	\$266	0.98	0.98
29	388100010	119	\$158	\$290	0.54	0.54
30	388100010	119	\$336	\$512	0.66	0.65
31	388100010	119	\$312	\$283	1.10	1.10

Table 2 – Market reference data

HRR market	Market level performance index
119	1.24

Step 1: Aggregate episode level data for PCP practices.

- a) Using episode data, identify all episodes for the measurement period. This data is evaluated at the individual episode level for each tax ID attributed to the episode. **For ABC Medical Group, this data is represented in Table 1. Each row signifies a distinct episode attributed to the practice. In this example, there were a total of 31 unique episodes adding up to \$10,820 in total actual allowed (Column B).**

Step 2: Determine benchmark.

- a) Benchmark allowed per episode is calculated **using a decision tree machine learning model**. Model features include Optum Symmetry® Episode Risk Groups® (ERG®) retrospective risk score, concurrent episodes, member comorbidities and Social Determinants of Health. Model R-Squared is 0.70–0.79 excluding outliers. **In this example the benchmark used for ABC Medical Group can be found in Column C in Table 1.**

Step 3: Determine PCP performance evaluation result.

- e) Calculate the episode-level performance index as total actual allowed amount/total benchmark allowed amount. **For ABC Medical Group, this is represented as B/C and the result is found in Column D. For example, the episode-level performance index for Episode 1 is (\$360/\$383) = 9399 (~.94).**
- f) Calculate the market adjusted episode level performance index as the episode level performance index/market level performance index for the market the practice being measured is a part of. The market and risk-level performance index is calculated as total actual episode allowed/total benchmark episode allowed with the following combinations of variables for different PCP sub-populations:
- *Commercial adult - Healthy*: Hospital referral region (HRR) and practice risk tier (low if practice average risk score is ≤median, high otherwise)
 - *Commercial adult - Chronic, Small TIN (small if episode count is < 80th percentile of episode count), PCP only practice (PCP practice if >80% of claims amounts associated with PCP specialty providers)*: HRR and practice-risk tier
 - *Commercial Adult – Chronic, all other*: HRR and practice-risk tier
 - *Commercial Pediatrics, Small TIN, PCP only practice*: HRR and practice-risk tier
 - *Commercial Pediatrics, all other*: HRR and practice-risk tier

ABC Medical Group is in HRR 119. The market level performance index for HRR 119 is 1.0024 in Table 2. The market adjusted episode level performance index is calculated as D/1.0024 and the results are found in Column E of Table 1. In this example, the market adjust episode level performance index for Episode 1 is .94/1.0024 = .937 (~.94).

- g) Calculate the overall weighted performance index for a practice by taking a weighted average of the market adjusted episode level performance index scores for that practice weighted by the total benchmark allowed amount. **For ABC Medical Group this would be the sum product of Column C and Column E in Table 1. ABC Medical Group’s overall performance index is 0.93.**

- h) Conduct a two-sample weighted t-test comparing the practice's market-adjusted performance index weighted by the total benchmark allowed amount with the average market-adjusted performance index from the relevant decision tree node weighted by the total benchmark allowed amount. The t-test indicates whether there is a statistically significant difference between the actual and expected episode-level performance indices.
- If the test has a p-value greater than 0.10, the practice results are not statistically significant and the practice outcome will be "Insufficient information."
 - If the test is statistically significant and the practice weighted performance index is less than 1, the practice will receive a designation of "Designation earned."
 - If the test is statistically significant and the practice weighted performance index is greater than 1, the practice outcome will be "Criteria not met."

Note: The weights used in the test are transformed with a degree of freedom correction. Using raw expected amount values for weights makes the tails of the t-test distribution very thin, leading to most test results having statistical significance. The correction standardizes the weights by their mean so that the sum of the weights equals the number of observations and creates a higher bar for statistical significance.

Using this methodology and assuming that the average of the relevant market-adjusted performance index values are 1, the p-value of ABC Medical Group is 0.44. Thus, the practice is designated as NSS.

Appendix F: PCP effectiveness (risk-adjusted utilization) performance evaluation example

This provides an example of the evaluation of practice performance for the risk-adjusted utilization measure of effectiveness.

Below is a fictional example for ABC Medical Group to illustrate how the calculation works. This example will walk through the scoring process for ABC Medical Group’s commercial adult population.

Table 1 – Populations and categories for ABC Medical Group

Line of business	Age group	Practice size	Practice risk tier	Geography type
Commercial	Adult	Small	High	Non-Urban
Commercial	Peds	Small	High	Non-Urban

Table 2 – ABC Medical Group commercial adult metric values

	A	B	C	D	E	F	G
Measure	Event count	Average member count	Average risk score	Actual risk-adjusted rate per 1000	Adjusted rate per 1000	Benchmark	Performance Index
ER Visits/1000	289	1,067	1.45	186.8	182.84	112.63	1.62
IP Admits/1000	64	1,067	1.45	41.37	38.09	28.86	1.32
MRI/CT Visits/1000	90	1,067	1.45	58.17	59.23	68.46	.87

Table 3 – List of risk-adjusted utilization measures and weights

	Weight	Commercial adults	Commercial pediatrics
Inpatient admissions/ 1,000 attributed members	3	✓.	✓.
ER visits/1,000 attributed members	2	✓.	✓.
MRI and CT scans/ 1,000 attributed members	1	✓.	✓.

Step 1: Aggregate numerator and denominator values for each measure type.

Using claims data, identify all events and enrollment for the measurement period for “valid” members attributed to the practice. **For ABC Medical Group, this is represented in Columns A and B in Table 2. This practice had an average of 1,067 commercial adult members throughout the measurement period with 289 ER Visits, 64 IP admits and 90 CT/MRI visits.**

Step 2: Determine PCP practice's performance.

This calculation is done separately for each unique business line/age group/measure combination for a practice.

- a) For each measure, calculate the actual risk adjusted rate per 1,000 as the (event count/[Average member count/1000])/Average risk score. **For ABC Medical Group, this is represented as $(A/(B/1000))/C$. For example, the actual risk adjusted rate per 1,000 for ER is $(289/(1,067/1000))/1.45 = 186.8$.**
- b) Apply a Bayesian transformation to the actual risk adjusted rate per 1,000 to create the adjusted rate per 1,000. The Bayesian transformation is applied to adjust for primary care practice volume and measure variance. (See empirical Bayesian transformation example for additional details). **For ABC Medical Group, this is represented in Column E. Continuing the ER example from part A, the adjusted rate per 1000 for ER is 182.84.**

Step 3: Determine benchmark.

Benchmark utilization is calculated for each measure as the average adjusted rate per 1,000 of a peer group, defined as combination of: measure, population (line of business and age group), practice size, practice risk tier and geography type with a minimum number of TINs in each combination of variables. **In this example the benchmark used for ABC Medical Group can be found in Column F in Table 2. The benchmark used for this population was the average utilization tied to groups in the Commercial | Adult | Small Practice Size | High Risk Tier | Non-Urban category.**

Step 4: Determine PCP performance evaluation result.

- a) Calculate a measure level performance index as the adjusted rate per 1,000/benchmark. **For ABC Medical Group, this is Column E/Column F = Column G. Continuing our ER example from above, the ER performance index value would be $182.84/112.63 = 1.62$.**
- b) Create an aggregated primary care practice level performance index by weighting together individual measure level performance indices. The weights can be found in Table 3 and are defined based on measure contribution to medical spend. **For ABC Medical Group the practice level performance index is:**
$$\frac{(1.32 \times 3) + (1.62 \times 2) + (.87 \times 1)}{6} = 1.35$$
- c) The primary care practice-level performance index is compared to 1. A statistical test (0.05 significance level) is run to identify primary care practices that are different from 1 in a way that is statistically significant to award designation. **For ABC Medical Group, the practice level score of 1.35 was compared to 1 and resulted in an outcome of "does not meet criteria" for designation.**

Appendix G: Clinical quality performance evaluation example

This provides an example of the evaluation of practice performance for clinical quality.

Below is a fictional example for ABC Medical Group to illustrate how the calculation works. This example will walk through the scoring process for ABC Medical Group's commercial adult population.

Table 1 – Populations and categories for ABC Medical Group

Line of business	Age group	Group size	Group risk tier	Group geography
Commercial	Adult	Large	High Risk	Rural

Table 2 – ABD Medical Group Commercial Adult metric values

Measure Type	Measure Name	A Numerator	B Denominator	C Actual measure score	D Adjusted measure score	E Adjusted measure score – lower bound	F Adjusted measure score – upper bound	G Performance index – lower bound	H Performance index – upper bound	I Final performance index	J Normalized performance index
Healthy	Breast Cancer Screening	74	88	84%	83%	79%	85%	1.10	1.18	1.14	1.36
Healthy	Cervical Cancer Screening	76	127	60%	60%	58%	63%	.87	.93	.9	-.83
Healthy	Colorectal Cancer Screening	100	210	48%	48%	46%	50%	.92	.99	.96	-.22
Healthy	Appropriate Testing for Pharyngitis	6	8	75%	71%	53%	84%	.86	1.36	1.11	.54
Healthy	Adult BMI Assessment	341	394	87%	86%	84%	89%	1.73	1.84	1.79	1.27

Table 3 – ABC Medical Group relevant population values & benchmarks

Measure Name	A Benchmark	B Peer group measure level mean	C Peer group measure level standard deviation
Breast Cancer Screening	72%	.99	.11
Cervical Cancer Screening	67%	1.00	.12
Colorectal Cancer Screening	50%	1.00	.18
Appropriate Testing for Pharyngitis	62%	.98	.24
Adult BMI Assessment	48%	1.00	.62

Step 1: Aggregate numerator and denominator values for each quality measure.

The PCP designation measures primary care practices based on quality performance on valid members attributed to the practice. Performance is measured based on data for the HEDIS measurement period ending December 31, 2019. **For ABC Medical Group, this is represented in Columns A and B in Table 2.**

Step 2: Determine PCP practice's performance.

This calculation is done separately for each unique business line/age group/measure combination for a practice. Only measures where a practice has at least five valid members in the denominator for a patient population are considered valid measures and included in the assessment.

- a) For each measure, calculate the actual score for each PCP practice as the measure numerator divided by the measure denominator. **For ABC Medical Group, Column C in Table 2 represents that actual measure level performance ($C = A/B$). For example, the actual score for ABC Medical Group's performance on Breast Cancer Screening is $74/88=84\%$.**
- b) Apply a Bayesian transformation to the actual measure score to create the adjusted measure score. The Bayesian transformation is applied to adjust for primary care practice volume and measure variance. (See empirical Bayesian transformation example for additional details.) **For ABC Medical Group, this is represented in Column D. Continuing the Breast Cancer Screening example from part a, the Adjusted measure score is 83%.**

Step 3: Determine benchmark.

Benchmark utilization is calculated for each measure as the average adjusted measure score of a peer group, defined as a combination of: measure, population (line of business and age group), practice size, practice risk tier and geography type with a minimum number of TINs in each combination of variables. **In this example, the benchmark used for ABC Medical Group can be found in Column A in Table 3. The benchmark used for this population was the average utilization tied to groups in the Commercial | Adult | Large Practice Size | High Risk Tier | Rural category.**

Step 4: Determine PCP performance evaluation result.

PCP performance evaluation is done at the domain/business line/age group level. For a physician group to receive a domain score, they must have at least two quality measures in that domain with at least five denominators in those measures for each measure/business line/population. For a physician group to receive an overall score they must have at least three measures in total.

- a) Create a confidence interval around the adjusted measure score, to create an upper and lower bound. **For ABC Medical Group, Column E in Table 2 represents the Adjusted measure score – lower bound and Column F in Table 2 represents the Adjusted measure score – upper bound. Following on the Breast Cancer Screening from above, the lower bound for the Breast Cancer Screening rate for ABC Medical Group is 79% and the upper bound is 85%.**
- b) Calculate an upper and lower bound for the measure level performance index. **For ABC Medical Group, the upper bound of the performance index is found in Column H and is calculated as Adjusted measure score – upper bound divided by the benchmark. Continuing our Breast Cancer Screening example, the upper bound for Breast Cancer Screening is $85\%/72\%=1.18$. The lower bound of the performance index is found in Column G and is calculated as the adjusted measure score – lower bound divided by the benchmark. Continuing our Breast Cancer Screening example, the upper bound for Breast Cancer Screening is $79\%/72\%=1.10$.**
- c) The final performance index is calculated as the midpoint between the performance index – lower bound and performance index – upper bound. **For ABC Medical Group, the final performance index is found in Column I, and is calculated as the Adjusted measure score – lower bound plus adjusted measure score – upper bound divided by 2. Continuing our Breast Cancer Screening example, the final performance index is $(1.18+1.10)/2 = 1.14$.**

- d) Create a normalized performance index. This normalization is done to account for differences in average value and standard deviation across measures. A normalized index is calculated for each measure as (Final performance index – peer group measure level mean)/ peer group measure level standard deviation. **For ABC Medical Group, the normalized performance index is found in Column J. Following on the Breast Cancer Screening example, the normalized performance index is $(1.14-.99)/.11=1.36$.**
- e) Create an aggregated primary care practice level performance index. The practice level performance index is calculated as the average of normalized measure-level indices. **For ABC Medical Group, the practice level performance index is**
- $$\frac{(1.36-.83-.22+.54+1.27)}{5} = .42$$
- f) The primary care practice-level performance index is compared to 0. A statistical test (0.1 significance level) is run to identify primary care practices who are different from 0 in a way that is statistically significant to award designation. For ABC Medical Group, the practice level score of .42 was compared to 0 and resulted in an outcome of “Designation earned” for the designation.

Appendix H: Commercial member attribution methodology

1. Data for attribution.
 - a. Member attribution will be set each calendar quarter using our data warehouse update as of one month prior to the start of the calendar quarter based on the most recent 24 months of data. For example, for calendar quarter starting January 1, 2021, members are attributed based on the most recent 24 months of data available as of the previous December 2020's data warehouse update capturing all clean claims received and paid through November 30, 2020.
2. Methodology.
 - a. If a member has selected a PCP and there is a cap payment made to that PCP then attribute to selected PCP (Note: This will only occur in markets with PCP capitation); or
 - b. The criteria for attribution of members with claims shall be, claim must have a place of service of outpatient and be coded with E&M Code listed:
 - Office or other outpatient visit for evaluation and management 99201-05, 99211-15
 - Home visit for evaluation and management of a new patient 99341-45, 99347-50
 - Prolonged physician service in the office or other outpatient setting requiring direct (face-to-face) patient contact beyond the usual service; first hour 99354-55
 - Prolonged evaluation and management service before and/or after direct (face-to-face) patient care 99358-59
 - Initial comprehensive preventive medicine evaluation and management 99381-87
 - Periodic comprehensive preventive medicine reevaluation and management 99391-97
 - Counseling and/or risk factor reduction intervention 99401-04; G Codes 0344, 0402, 0438, 0439; and
 - c. Where the rendering physician specialty is equal to Family Practice (FP), Internal Medicine (IM), Pediatrics (Ped); or
 - d. If no Primary Care Physician (PCP) visits are found then uses any claims for Physician Assistants (PA) or Nurse Practitioner (NP); and
 - e. Using the most recent 12 months of claims (Current year):
 - i. If the Member has only 1 visit, then the Member will be attributed to the rendering physician's group, as defined by Tax ID.
 - ii. If the Member has more than one visit and the treating physician(s) are all with the same group, the Member will be attributed to that group.
 - iii. If the Member has 2 or more visits in current year, and the visits are by treated by physicians of two different groups, the Member will be attributed to the group with the most recent visit of all visits, if the Member has at least 2 visits with that group; else, attribute to the group with the most number of visits in the prior 12 months, if there is a tie, attribute to the group with the most recent visit; or

- iv. If a Member has no PCP claims in the most recent 12 months, include an additional 12 months of claims prior to the Current year:
- v. If the Member has only 1 visit, then the Member will be attributed to the rendering physician's group.
- vi. If the Member has more than one visit but the rendering physician(s) are all with the same group, the Member will be attributed to that group.
- vii. If the Member has 2 or more visits in current year, and the visits are by rendering physicians of two different group, the Member will be attributed to the group with the most recent visit of all visits , if the Member has at least 2 visits with that group; else, attribute to the group with the most number of visits in the prior 24 months, if there is a tie, attribute to the group with the most recent visit

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