



BlueCross BlueShield of Illinois



Physician Efficiency, Appropriateness, & QualitySM

PEAQSM

Program Methodology

Table of Contents

I. Overview of Physician Efficiency, Appropriateness, & Quality (PEAQ) Program

a. Introduction

1. PEAQ Uses
2. Composite Results

b. Summary Overview

1. Efficiency
2. Appropriateness
3. Quality
4. Current Specialties Measured

c. Continuous Improvement

d. Physicians Not Evaluated

II. Efficiency Measurement Details

a. Key Components for Fair Comparisons

b. Methodology

1. Time Period and Frequency
2. Minimum Thresholds for Credible Results

III. Appropriateness Measurement Details

a. Measure Details

b. Measure Construction

c. Attribution/Assignment

IV. Quality Measurement Details

a. Measure Details

b. Measure Construction

c. Quality Practice Score

V. Physician Review & Reconsideration Process

VI. Comments & Feedback

VII. Appendix A: Measures

I. OVERVIEW OF PHYSICIAN EFFICIENCY, APPROPRIATENESS, AND QUALITY PROGRAM

At Blue Cross and Blue Shield of Illinois (BCBSIL), we take the quality and affordability of the care provided to our members very seriously. As a part of this commitment, one of BCBSIL's core objectives is to maximize and improve the value of care our members receive.

To further this commitment, our BCBSIL Physician Efficiency, Appropriateness, and Quality Program evaluates physician performance in a transparent and multidimensional way. A goal of PEAQ is to work with the physician community to maximize physician efficiency, appropriateness, and quality of care. We are developing the PEAQ program with input from physicians currently in practice.

The guiding principles of our PEAQ Program include:

- **Metrics** – Selecting meaningful measures of health care efficiency, appropriateness, and quality
- **Collaboration** – Sharing with physicians to ensure measurement transparency and clinical relevance
- **Insights** – Providing physician-level insights on improving overall patient care
- **Transparency** – Equipping physicians with meaningful information about efficiency, appropriateness, and quality
- **Continuous Improvement** – Reevaluating our methodology and measures regularly based on feedback and recent clinical evidence
- **Member Focus** – Helping our members identify physicians who are right for them

PEAQ Uses

PEAQ insights will be included on the Provider Finder® profile page for physicians who are scored. Physicians are categorized in tiers based on their calculated result and its relationship to their peer group's mean. Physicians who perform well among peers receive a designation indicating their Top Performing Physician status. PEAQ data can also impact employer insights. We have a consistent commitment of evolution based on new technologies and feedback.

Composite Results

The PEAQ composite result is an overall look at the provider's Efficiency, Appropriateness, and Quality performance during the reporting period. A composite result allows BCBSIL to fairly compare providers within the same peer group that may have been scored in different PEAQ components.

BCBSIL uses a weighted average to calculate the composite result based on which PEAQ components (Efficiency, Appropriateness, Quality) the provider is scored on during the reporting period. The calculated results are normalized between 0 and 10. Extreme outliers are removed.

Composite Scenario #1 – Efficiency, Quality, Appropriateness

Efficiency Result (60%) + Quality Result (20%) + Appropriateness (20%) = Composite Result

Composite Scenario #2 – Efficiency, Quality

Efficiency Result (60%) + Quality Result (40%) = Composite Result

Composite Scenario #3 – Efficiency, Appropriateness

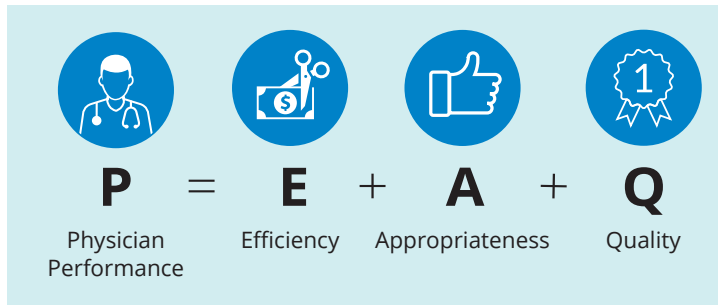
Efficiency Result (60%) + Appropriateness (40%) = Composite Result

Composite Scenario #4 – Efficiency Only

Efficiency Result (100%) = Composite Result

Summary Overview

The three key components of BCBSIL's PEAQ program are described below.



Efficiency

To evaluate physicians for cost-efficiency, we use Blue Health Intelligence's (BHI's) efficiency model. This is a comprehensive data analysis and reporting solution with financial and utilization metrics that provides users with the ability to identify potential efficiency improvement opportunities.

Current Specialties Measured

The PEAQ program measures physicians across primary care, medical, and surgical specialties where there is sufficient share of practice. Measured specialties are listed below:

Medical	Surgical	Primary Care
Cardiology	Cardiothoracic Surgery	Family Medicine
Endocrinology	Ophthalmology	Internal Medicine
Gastroenterology	Orthopedic Surgery	Pediatrics
Nephrology	Urology	
Neurology	Vascular Surgery	
Obstetrics and Gynecology		
Pulmonary		
Rheumatology		

Continuous Improvement

We continually reevaluate our methodology program for accuracy and statistical rigor in each of the three components of BCBSIL's PEAQ program. Iterative improvements are made to account for feedback and future development. Notifications of any major methodological changes will be communicated to physicians.

Physicians Not Evaluated

For a variety of reasons, not all physicians are evaluated by the PEAQ program. These reasons may include:

- Specialty not included in current measurement
- Inadequate peer group information
- Non-MD/DO physician
- Not meeting minimum credibility thresholds

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Appropriateness

The appropriateness measures reflect whether care provided is evidence-based and/or meets generally accepted standards of practice based on peer-reviewed evidence and clinical best practices. The methodology and results – produced by Motive Medical Intelligence (Practicing Wisely Solutions™) for the PEAQ program – are statistically valid and reviewed by expert physicians to ensure clinical appropriateness.

Quality

Quality measures from Motive Medical Intelligence are focused on the individual physician's role within the care team in managing conditions, performing procedures, and following up with recommended care. Claims evaluation provides a view into the alignment of physician practice patterns with the clinical practice guideline recommendations from the major specialty and subspecialty societies.

II. EFFICIENCY MEASUREMENT DETAILS

Key Components for Fair Comparisons

The proprietary efficiency model is an award-winning¹, data-driven approach to efficiency measurement that was developed by a team of data scientists and clinicians at BCBSIL with input from physicians. The model accounts for physicians, patients, and attributed benefits to ensure fair comparisons.

We use the latest machine learning methodologies and statistical controls to minimize outlier impact, align physicians to peer groups, and remove anomalous patient episodes. A key component of this review and basis for cost roll-up is care delivery by the team of physicians managing patient care.

Our efficiency methodology breaks down the impact of site of service, type of service, volume of service, and price of the various services to determine total cost.

¹ Honoree of the 2019 Digital Edge 50 Award from IDG (the publisher of CIO magazine) and one of Drexel University LeBow College of Business' 2016 Analytics 50 honorees.

Fair Comparison Component	Description and Application
Episode Condition and Disease Stage	The efficiency model matches patients to other patients with the same clinical condition using episodes of care. Episode categories are further segmented by severity and disease stage progression and grouped as Acute or Chronic. Only episodes marked as complete are utilized in efficiency results.
Working Specialty	Physicians are matched to other physicians within the same Working Specialty (WS). The WS represents a physician's specialty and/or sub-specialty and is determined using information from BCBSIL's physician demographics database as well as claims submitted by the physician. The WS may be more specific than a physician's self-declared specialty. For example, WS may distinguish an interventional cardiologist from a non-interventional cardiologist based on claims submitted by the physician.
Contracted Network	Physicians are matched to other physicians practicing in the same network model type, such as a Preferred Provider Organization (PPO) or a Health Maintenance Organization (HMO), with similarly aligned BCBSIL network products grouped to model type.
Patient Risk	The model employs the latest machine learning and predictive modeling techniques to accurately adjust for patient population differences related to comorbidities and demographics.
Pharmacy Coverage	Comparative groups are defined separately depending on whether patients are enrolled in a prescription program with a Pharmacy Benefits Manager (PBM) that reports financial data to BCBSIL or not. Patients in PBM programs that do not include such prescription financial data are evaluated on medical cost only.
Geographic Market	Physicians are matched with peers who practice in the same geographic market. A market region area can be limited to several ZIP codes depending on the concentration of patients and physicians in the area.
Outliers	Outlier patient episodes and their associated costs can positively or negatively skew physicians' results. In order to control for such anomalous data, episodes' Total Allowed Costs are truncated for each episode group and disease stage combination. In addition, machine learning methods are used to identify remaining outliers in further analysis.

Methodology

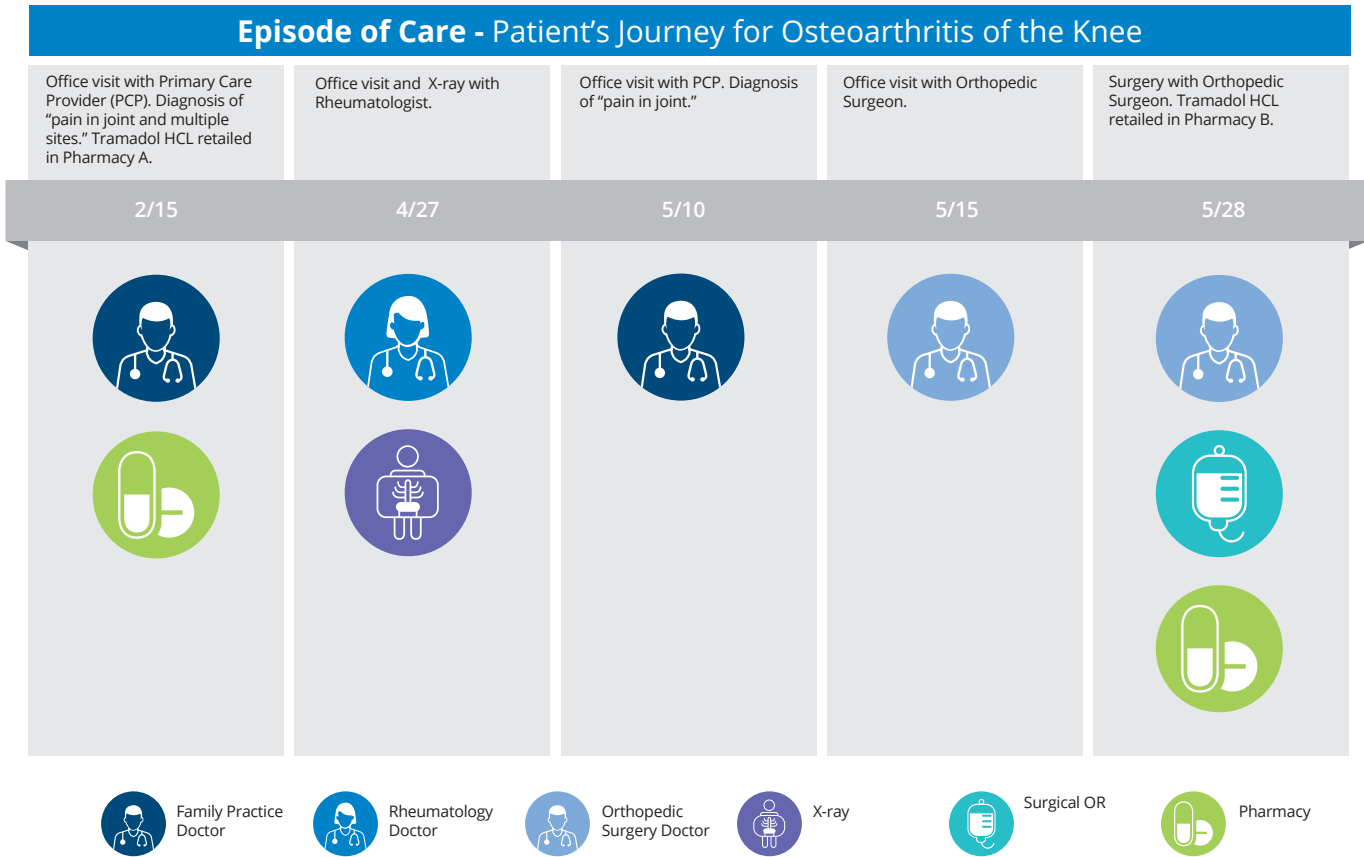
A physician's overall efficiency is a weighted average of efficiencies across their episodes of care. All related claims are combined to form an episode of care to identify treatment teams. Episodes are diagnosis-based rather than procedure-based. For example, if a patient had a procedure, the episode of care would include all related care provided before and after the procedure, across working specialties. This model captures the impact of site of service, type of service, volume of services, and price points for each service and includes all types of services (e.g., IP, OP, Prof, Ancillary, Rx).

The total cost for each of a physician's episodes of care is compared to the total expected cost of the episode – an average across episodes of the same type / stage, treated by the same type of physician, in the same area and network. The expected cost of the episode is further adjusted for patient comorbidities and demographic risks. A physician's episode measurement result is the ratio of the episode's actual cost to its expected cost, with a lower ratio providing a more favorable cost-efficiency result. A physician's overall efficiency is equal to the weighted average of the episode measurement results across episodes for all included networks, weighted based on the size of the episode and proportion of care provided.



Time Period and Frequency

Our model considers episodic data during up to 24 months of incurred services. See the graphic for an example of services that are combined into a clinically coherent episode of care. The services displayed are a selection for demonstration only. Actual episodes may include additional services based on actual care delivery.



Minimum Thresholds for Credible Results

For a condition to be included, the following criteria must be met:

- A minimum number of episodes treated for the condition by a physician
- A minimum number of episodes across all physicians treating the condition in the same peer group

Only episodes that meet cost thresholds and are marked as complete are included in measurement.

Credibility thresholds will be continually evaluated and are subject to change.

III. APPROPRIATENESS MEASUREMENT DETAILS

Our appropriateness metrics evaluate the extent to which physicians make decisions about patient care that are consistent with current evidence-based guidelines. We have partnered with Motive Medical Intelligence to deliver these measures using the Practicing Wisely Solutions appropriateness of care measurement methodology.

See Appendix A for a list of appropriateness of care measures for each specialty.

Measure Details

Appropriateness of care measures physician practice patterns that have potential for patient harm and wasteful spending, and/or for which significant variations in care exist among different physicians. The purpose of evaluating appropriateness is to help physicians practice within current evidence-based guidelines. Appropriateness of care measures are determined through a systematic examination of data, evidence, and clinical opinion. Data are abstracted from claims data as shared by the plan. Evidence is culled by Motive Medical Intelligence from peer-reviewed literature, which is analyzed with quantitative bibliometrics. Opinion is derived from subject matter experts who are in active clinical practice in the areas being measured, and who are identified by quantitative indices of expertise.

The resultant measure topics are developed with regard for the realities of clinical practice, leveraging a range of better practice (ROBP) to allow for clinical variables that cannot be gleaned from claims data.

Measure Construction

Appropriateness measure rates are formulated as numerator–denominator statements, utilizing a standardized denominator, exclusion, attribution, and numerator (DEAN) methodology. Each component of the DEAN methodology is subject to the data, evidence, and opinion process outlined above.

Cases meeting inclusion criteria and exclusion criteria are identified within claims datasets. Numerator–denominator measures are analyzed to identify potentially inappropriate episodes of care.

Cases that warrant intensive treatment are excluded, and attention instead is focused on areas of known inappropriate care based on current evidence and guided by Motive Medical Intelligence’s clinical experts. These practices avoid misrepresentation of physician performance and ensure accurate measurement of performance among peers.

Measures are attributed to the physician responsible for the care decision. Cases that cannot be definitively attributed to a physician are excluded. Several considerations are involved in proper attribution, depending on the measure:

Consideration	Example
Specialty procedures are attributed only to physicians within the specialty of interest.	Inappropriate cardiac catheterization is attributed to the cardiologist rather than the primary care provider.
The timing of interventions relative to physician visits may be a factor in determining attribution.	In the case of a patient who undergoes magnetic resonance imaging (MRI) of the spine during the same month in which he or she has evaluation and management (E&M) visits with both a PCP and a spine surgeon, the MRI is generally attributed to the physician who was seen most recently. This means the MRI may be attributed to the PCP if it occurs after the PCP visit but before the subsequent spine surgeon visit; conversely, it may be attributed to the spine surgeon if it takes place after the spine surgeon visit but before the follow-up PCP visit.
For episodes of care in which the physician rendering the service is responsible for the decision to deliver that service (e.g., cardiac catheterization), the event of interest is attributed to the physician identified on the claim as the rendering National Provider Identifier (NPI).	In measuring physician performance on percutaneous coronary intervention (PCI) without prior measurement of fractional flow reserve (FFR), the decision to perform PCI is attributed to the physician on the PCI procedure claim.

Consideration	Example
<p>For E&M measures, the event of interest is attributed to the presumptive ordering physician at a prior E&M visit instead of the rendering NPI. This approach is used because the physician rendering the service may be different from the physician responsible for the decision to deliver that service.</p>	<p>In a measure of MRI for neck pain, the MRI will be presumed to have been ordered by the physician at the prior E&M visit, rather than the radiologist performing the procedure. Correct attribution in E&M measures requires additional nuance. For example, a PCP who saw a patient twice before ordering an MRI of the neck on the third visit will get credit for conservative care on the two visits that did not lead to imaging.</p>

A ROBP is established to account for variation in practice patterns based on clinical evidence and expert oversight. The ROBP also acknowledges the variation in medical coding practices, gaps in claims data, and the realities of clinical medicine, such as regional resource limitations, reliance on tertiary referral, and individual patient factors. A minimum threshold number of cases is established to generate statistically significant analyses, while ensuring that physicians are evaluated based on the care decisions they make regularly.

Attribution/Assignment

A patient's primary care attribution is derived from their historic claims data. For a physician or specialist to be evaluated, they must meet a minimum patient volume threshold. Patients are attributed to specialists based on claims data.



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IV. QUALITY MEASUREMENT DETAILS

Our quality of care measures determine the extent to which the care physicians provide is aligned with evidence-based clinical practice guidelines for the management of conditions and their procedural complication rates. We have partnered with Motive Medical Intelligence to deliver these measures using the Practicing Wisely Solutions quality of care measurement methodology.

Measure Details

The purpose of individual physician-attributable quality of care measures is to help ensure that patients receive consistently excellent care over time, while focusing on those aspects of the care delivery process that are within the physician's direct control.

Quality of care measures are developed through a systematic examination of data and clinical practice guidelines and their underlying evidence guided by and clinical opinion. Data are abstracted from claims data as shared by the plan. Guideline recommendations are identified, and the underlying evidence is culled by Motive Medical Intelligence from peer-reviewed literature, which is analyzed with quantitative bibliometrics. Clinical opinion is provided by subject matter experts who are in active clinical practice in the areas being measured, and who are identified by quantitative indices of expertise.

The resultant measure topics are developed with regard for the realities of clinical practice, leveraging a ROBP to allow for clinical variables that cannot be gleaned from claims data, and ensuring that each measure is reasonable and fair to physicians.

Measure Construction

Condition-based quality measures are constructed as composites of multiple individual indicators of alignment with guideline-directed care. Procedure-based quality measures are constructed as individual measures of complication rates. Both condition- and procedure-based quality measures are formulated as numerator-denominator statements, utilizing a standardized DEAN methodology.

Cases meeting inclusion criteria and exclusion criteria are identified within national claims datasets. Numerator and denominator cases are analyzed to identify opportunities to provide care that is aligned with clinical practice guideline recommendations and high-quality clinical evidence.

Each quality measure is attributed to the physician responsible for delivering the care. Attribution is carefully evaluated so that a given physician's scores are not biased by the actions of others, using the same attribution methodology Motive uses for its appropriateness measures. Cases that cannot definitively be attributed to a physician are excluded.

Quality Practice Score

Physicians who meet the minimum denominator thresholds for each specialty area receive a quality practice score (QPS) for that specialty.

The QPS is a composite score derived from a physician's performance against all the indicators and measures, in a given specialty area, for which the physician has a sufficient case count to qualify for measurement.

The QPS is a single score that ranks all physicians nationwide, according to specialty. The QPS provides a summary view of the overall quality of a physician's practice patterns, with respect to evidence-based standards of care and clinical practice guidelines, as well as avoidance of procedural complications, that can be used to inform member steerage.

V. PHYSICIAN REVIEW & INQUIRY PROCESS

Physicians will receive information about their PEAQ designations via Availity® Essentials. BCBSIL will send notice when results are available.

Physicians may request additional details about their PEAQ designation. Requests and questions about reports should be submitted to PEAQ_inquiries@bcbsil.com.

VI. COMMENTS & FEEDBACK

Comments and feedback are welcome and can be emailed to PEAQ_Reporting_Analytics@bcbsil.com.

VII. APPENDIX A: MEASURES

Set 1: Quality Measures

Specialty	Description
Cardiology	Measures in the Cardiovascular Disease domain evaluate the alignment of cardiovascular disease physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Association for Thoracic Surgery, American College of Cardiology Foundation, American College of Cardiology Foundation, American College of Physicians, Heart Rhythm Society, Preventive Cardiovascular Nurses Association, Society for Cardiovascular Angiography and Interventions, Society for Clinical Vascular Surgery, Society of Thoracic Surgeons, and Surgical Infection Society; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Cardiothoracic Surgery	Measures in the Cardiothoracic Surgery domain evaluate the alignment of cardiothoracic surgeon decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Association for Thoracic Surgery, American Association of Cardiovascular and Pulmonary Rehabilitation, American Board of Internal Medicine Foundation, American College of Cardiology, American College of Cardiology Foundation, American College of Cardiology Foundation, American College of Radiology, American Society of Anesthesiologists, American Society of Echocardiography, Council on Clinical Cardiology, National Comprehensive Cancer Network, Society of Cardiovascular Anesthesiologists, Society of Thoracic Surgeons, and Surgical Infection Society; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Endocrinology	Measures in the Endocrinology domain evaluate the alignment of endocrinology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Association of Endocrine Surgeons, American Board of Internal Medicine Foundation, American Diabetes Association, American Heart Association, American Hepato-Pancreato-Biliary Association, American Society for Metabolic and Bariatric Surgery, American Society of Transplant Surgeons, Centers for Disease Control and Prevention, Endocrine Society, Kidney Disease: Improving Global Outcomes, Surgical Infection Society, and U.S. Preventive Services Task Force; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.

Specialty	Description
Family Medicine, Internal Medicine	Measures in the Primary Care domain evaluate the alignment of primary care physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from Alzheimer's Association, American Academy of Neurology, American Academy of Ophthalmology, American Association of Clinical Endocrinologists, American Board of Internal Medicine Foundation, American College of Cardiology, American College of Physicians, American College of Radiology, American College of Radiology, American Diabetes Association, American Geriatrics Society, American Heart Association, American Society of Clinical Oncology, American Society of Nephrology, American Stroke Association, American Thoracic Society, Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, Centers for Medicare & Medicaid Services, Global Initiative for Asthma, Infectious Diseases Society of America, Kidney Disease: Improving Global Outcomes, National Committee for Quality Assurance, U.S. Food and Drug Administration, and U.S. Preventive Services Task Force; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Gastroenterology	Measures in the Gastroenterology domain evaluate the alignment of gastroenterology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Association for the Study of Liver Diseases, American Board of Internal Medicine Foundation, American College of Gastroenterology, American Gastroenterological Association, American Society for Gastrointestinal Endoscopy, American Society for Metabolic and Bariatric Surgery, American Society of Colon and Rectal Surgeons, Society of American Gastrointestinal and Endoscopic Surgeons, Surgical Infection Society, and U.S. Multi-Society Task Force on Colorectal Cancer; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Nephrology	Measures in the Nephrology domain evaluate the alignment of nephrology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Association for the Study of Liver Diseases, American Society of Transplant Surgeons, Centers for Disease Control and Prevention, Infectious Diseases Society of America, Kidney Disease: Improving Global Outcomes, Surgical Infection Society, and U.S. Food and Drug Administration; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Neurology	Measures in the Neurology domain evaluate the alignment of neurology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Academy of Neurology, American Academy of Physical Medicine and Rehabilitation, American Association of Neuromuscular and Electrodiagnostic Medicine, American Board of Internal Medicine, American College of Cardiology, American College of Radiology, American Heart Association, American Heart Association Stroke Council, American Stroke Association, and U.S. Food and Drug Administration; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.

Specialty	Description
Obstetrics and Gynecology	Measures in the Obstetrics and Gynecology domain evaluate the alignment of obstetrics and gynecology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from Advisory Committee on Immunization Practices, Agency for Healthcare Research and Quality, American Association of Gynecologic Laparoscopists, American Cancer Society, American College of Obstetricians and Gynecologists, American College of Physicians, American College of Geriatrics Society, American Society for Clinical Pathology, American Society for Colposcopy and Cervical Pathology, American Society for Microbiology, American Society of Nephrology, American Urogynecologic Society, American Urological Association, Centers for Disease Control and Prevention, Committee on Obstetric Practice, Immunization and Emerging Infections Expert Work Group, Infectious Diseases Society of America, National Comprehensive Cancer Network, National Quality Forum, Society for Maternal-Fetal Medicine, Society of Breast Imaging, Society of Urodynamics, Female Pelvic Medicine & Urogenital Reconstruction, Surgical Infection Society, The Joint Commission, U.S. Department of Health & Human Services, U.S. Food and Drug Administration, and U.S. Preventive Services Task Force; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Ophthalmology	Measures in the Ophthalmology domain evaluate the alignment of ophthalmology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Academy of Ophthalmology, American Board of Internal Medicine Foundation, American College of Ophthalmology, American Optometric Association, and U.S. Food and Drug Administration; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Orthopedic Surgery	Measures in the Orthopedics domain evaluate the alignment of orthopedic surgeon decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Academy of Neurological Surgeons, American Academy of Orthopaedic Surgeons, American Association for Hand Surgery, American Association of Hip and Knee Surgeons, American College of Radiology, American Geriatrics Society, American Medical Society for Sports Medicine, American Orthopaedic Foot and Ankle Society, American Orthopaedic Society for Sports Medicine, American Podiatric Medical Association, American Shoulder and Elbow Surgeons, American Society for Surgery of the Hand, Arthritis Foundation, European Academy of Neurology, International Society for the Advancement of Spine Surgery, North American Spine Society, Society of Minimally Invasive Spine Surgery, Spine Intervention Society, and Surgical Infection Society; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Pediatrics	Measures in the Pediatrics domain evaluate the alignment of pediatric physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Academy of Neurology, American Academy of Pediatrics, American Association of Clinical Endocrinologists, American Board of Internal Medicine Foundation, American Diabetes Association, Centers for Disease Control and Prevention, Global Initiative for Asthma, and U.S. Food and Drug Administration; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.

Specialty	Description
Pulmonology	Measures in the Pulmonology domain evaluate the alignment of pulmonology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Academy of Sleep Medicine, American College of Chest Physicians, American College of Physicians, American College of Radiology, American Thoracic Society, Canadian Thoracic Society, European Respiratory Society, Global Initiative for Asthma, Global Initiative for Chronic Obstructive Lung Disease, Infectious Diseases Society of America, and U.S. Preventive Services Task Force; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Rheumatology	Measures in the Rheumatology domain evaluate the alignment of rheumatology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Board of Internal Medicine Foundation, American College of Radiology, American College of Rheumatology, Spondylitis Association of America, and U.S. Food and Drug Administration; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Urology	Measures in the Urology domain evaluate the alignment of urology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Board of Internal Medicine Foundation, American College of Obstetricians and Gynecologists, American Urogynecologic Society, American Urological Association, Society of Urodynamics, Female Pelvic Medicine & Urogenital Reconstruction, Surgical Infection Society, and U.S. Preventive Services Task Force; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Vascular Surgery	Measures in the Vascular Surgery domain evaluate the alignment of vascular surgeon decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American College of Cardiology, American Heart Association, Society for Cardiovascular Angiography and Interventions, Society for Vascular Medicine, Society for Vascular Surgery, Society of Interventional Radiology, Surgical Infection Society, and Vascular and Endovascular Surgery Society; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.

Set 1: Appropriateness Measures

Specialty	Description
Cardiology	Measures in the Cardiovascular Disease domain evaluate the alignment of cardiovascular disease physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Association for Thoracic Surgery, American College of Cardiology Foundation, American College of Cardiology Foundation, American College of Physicians, Heart Rhythm Society, Preventive Cardiovascular Nurses Association, Society for Cardiovascular Angiography and Interventions, and Society of Thoracic Surgeons; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Cardiothoracic Surgery	Measures in the Cardiothoracic Surgery domain evaluate the alignment of cardiothoracic surgeon decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Association of Cardiovascular and Pulmonary Rehabilitation, American Board of Internal Medicine Foundation, American College of Cardiology, American College of Cardiology Foundation, American College of Radiology, American Society of Anesthesiologists, American Society of Echocardiography, Council on Clinical Cardiology, National Comprehensive Cancer Network, Society of Cardiovascular Anesthesiologists, and Society of Thoracic Surgeons; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Endocrinology	Measures in the Endocrinology domain evaluate the alignment of endocrinology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Board of Internal Medicine Foundation, American Diabetes Association, American Heart Association, Centers for Disease Control and Prevention, Endocrine Society, Kidney Disease: Improving Global Outcomes, and U.S. Preventive Services Task Force; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Family Medicine, Internal Medicine	Measures in the Primary Care domain evaluate the alignment of primary care physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from Alzheimer's Association, American Academy of Neurology, American Academy of Ophthalmology, American Association of Clinical Endocrinologists, American Board of Internal Medicine Foundation, American College of Cardiology, American College of Physicians, American College of Radiology, American College of Radiology, American Diabetes Association, American Geriatrics Society, American Heart Association, American Society of Clinical Oncology, American Society of Nephrology, American Stroke Association, American Thoracic Society, Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, Centers for Medicare & Medicaid Services, Global Initiative for Asthma, Infectious Diseases Society of America, Kidney Disease: Improving Global Outcomes, National Committee for Quality Assurance, U.S. Food and Drug Administration, and U.S. Preventive Services Task Force; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.

Specialty	Description
Gastroenterology	Measures in the Gastroenterology domain evaluate the alignment of gastroenterology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Association for the Study of Liver Diseases, American Board of Internal Medicine Foundation, American College of Gastroenterology, American Gastroenterological Association, American Society for Gastrointestinal Endoscopy, and U.S. Multi-Society Task Force on Colorectal Cancer; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Nephrology	Measures in the Nephrology domain evaluate the alignment of nephrology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Association for the Study of Liver Diseases, Centers for Disease Control and Prevention, Infectious Diseases Society of America, Kidney Disease: Improving Global Outcomes, and U.S. Food and Drug Administration; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Neurology	Measures in the Neurology domain evaluate the alignment of neurology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Academy of Neurology, American Academy of Physical Medicine and Rehabilitation, American Association of Neuromuscular and Electrodiagnostic Medicine, American Board of Internal Medicine, American College of Cardiology, American College of Radiology, American Heart Association, American Heart Association Stroke Council, American Stroke Association, and U.S. Food and Drug Administration; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Obstetrics and Gynecology	Measures in the Obstetrics and Gynecology domain evaluate the alignment of obstetrics and gynecology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from Advisory Committee on Immunization Practices, Agency for Healthcare Research and Quality, American Cancer Society, American College of Obstetricians and Gynecologists, American College of Physicians, American College of Radiology, American Diabetes Association, American Geriatrics Society, American Society for Clinical Pathology, American Society for Colposcopy and Cervical Pathology, American Society for Microbiology, American Society of Nephrology, American Urological Association, Centers for Disease Control and Prevention, Committee on Obstetric Practice, Immunization and Emerging Infections Expert Work Group, Infectious Diseases Society of America, National Comprehensive Cancer Network, National Quality Forum, Society for Maternal-Fetal Medicine, Society of Breast Imaging, Society of Urodynamics, Female Pelvic Medicine & Urogenital Reconstruction, The Joint Commission, U.S. Department of Health & Human Services, U.S. Food and Drug Administration, and U.S. Preventive Services Task Force; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.

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Ophthalmology	Measures in the Ophthalmology domain evaluate the alignment of ophthalmology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Academy of Ophthalmology, American Board of Internal Medicine Foundation, American College of Radiology, American Optometric Association, and U.S. Food and Drug Administration; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Orthopedic Surgery	Measures in the Orthopedics domain evaluate the alignment of orthopedic surgeon decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Academy of Neurological Surgeons, American Academy of Orthopaedic Surgeons, American College of Radiology, American College of Geriatrics Society, American Medical Society for Sports Medicine, Arthritis Foundation, European Academy of Neurology, and North American Spine Society; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Pediatrics	Measures in the Pediatrics domain evaluate the alignment of pediatric physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Academy of Neurology, American Academy of Pediatrics, American Association of Clinical Endocrinologists, American Board of Internal Medicine Foundation, American Diabetes Association, Centers for Disease Control and Prevention, Global Initiative for Asthma, and U.S. Food and Drug Administration; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Pulmonology	Measures in the Pulmonology domain evaluate the alignment of pulmonology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Academy of Sleep Medicine, American College of Chest Physicians, American College of Physicians, American College of Radiology, American Thoracic Society, Canadian Thoracic Society, European Respiratory Society, Global Initiative for Asthma, Global Initiative for Chronic Obstructive Lung Disease, Infectious Diseases Society of America, and U.S. Preventive Services Task Force; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Rheumatology	Measures in the Rheumatology domain evaluate the alignment of rheumatology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Board of Internal Medicine Foundation, American College of Radiology, American College of Rheumatology, Spondylitis Association of America, and U.S. Food and Drug Administration; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.

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Urology	Measures in the Urology domain evaluate the alignment of urology physician decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American Board of Internal Medicine Foundation, American College of Obstetricians and Gynecologists, American Urogynecologic Society, American Urological Association, Society of Urodynamics, Female Pelvic Medicine & Urogenital Reconstruction, and U.S. Preventive Services Task Force; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.
Vascular Surgery	Measures in the Vascular Surgery domain evaluate the alignment of vascular surgeon decision-making with evidence-based best practices based on relevant medical literature published prior to the start of the current measurement period in a minimum of one of the following sources: 1) Clinical practice guidelines or similar guidance from American College of Cardiology, American Heart Association, Society for Cardiovascular Angiography and Interventions, Society for Vascular Medicine, Society for Vascular Surgery, and Society of Interventional Radiology; 2) Clinical guidance from the Centers for Disease Control and Prevention (CDC); 3) FDA-approved prescribing information or relevant guidance from FDA; or Original articles published in the top 100 clinical medicine journals as ranked by Journal Impact Factor.



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