Specialist Scoring Methodology

This document on Specialty-based Tiering Methodology describes the method used by BCBSNC for the Tiered Network product for 2017 and is provided for informational purposes only. Physician designation ratings are a guide to choosing a physician, practice or medical group. Because ratings have a risk of error, they should not be the sole basis for selecting a doctor. Patients should confer with their physician before making a decision.

Designation Overview

Designation is made at the practice level.

- Designation only includes In-network providers contracted with BCBSNC.
- All providers who participated in a practice during the prior three years could have data included for the practice. Practices are defined by BCBSNC Network Management contracting. Practices with multiple billing provider ID's or Tax ID's may be grouped together under a single practice by Network Management.
- If a provider treated patients at a practice that is no longer active then the data for those patients is not used in scoring the provider at the current practice s/he is a part of. However, a provider who left a currently active practice will have his/her data included for that practice's score.
- Multi-specialty groups are included in the designation process. But only episodes attributed to a provider of the correct specialty are included.

BCBSNC will base its quality designation network on quality and efficiency.

- Any practice that meets the quality criteria will also be assessed on efficiency criteria to determine designation.
- From time to time, BCBSNC may choose, in its discretion, to assign Tier 1 status to a practice in order to increase marketability of the product based on placement of Tier 1 providers.

Quality Criteria

There are four sources used for quality measurement: Recognition for quality by NCQA, participation in a specialty-specific quality improvement program, adherence with evidence based medicine (EBM) process measures, rates of potentially avoidable complications for specialty-specific procedures.

Potentially avoidable complication measures use PROMETHEUS® ECR® Analytics software (more details on the complication measures can be found at http://www.hci3.org/programs-efforts/prometheus-payment/ecr-analytics. EBM measures are computed using MedVantage HealthSmart Designer Suite software. The measures are all NCQA and NQF endorsed.

The following are the quality criteria for each type of practice:

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Cardiology

- NCQA recognition in Heart Stroke Recognition Program (HSRP) (At least 75% of providers in a practice must be recognized).

OR

- Meeting specific thresholds on both:
    - set of evidence based medicine (EBM) quality measures
    - potentially avoidable complications of cardiac catheterization.

Orthopedics

- *NCQA Back Pain Recognition Program (BPRP). At least 75% of providers in a practice must be recognized.

OR

- Meeting a specific threshold on both:
    - EBM quality measures for low back pain management
    - potentially avoidable complication rates for hip replacement, knee replacement and knee arthroscopy.

Gastroenterology

- Meeting specific thresholds on:
    - potentially avoidable complication rates for colonoscopy and gastroesophageal reflux disease (GERD)

AND

- Participation in one of the following quality improvement data programs:
    - American Gastroenterological Association (AGA) Digestive Health Outcomes Registry®
    - GI Quality Improvement Consortium, Ltd. registry (GIQuIC)

General Surgery

- Meeting specific thresholds on potentially avoidable complication rates for colonoscopy, colon re-section, and cholecystectomy

AND

- Participation in one of the following quality improvement data programs:

- American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP®)
- GI Quality Improvement Consortium, Ltd. registry (GIQuIC).

OBGYN

- Participation in one of the following NCQA certifications (at least 75% of active providers in a practice must be recognized:
  - *NCQA Physician Practice Connections (PPC)
  - NCQA Patient-Centered Specialty Practice or Blue Quality Physician Program
  - Blue Quality Physician Program

OR

- Meeting specific thresholds on both:
  - potentially avoidable complication rates for deliveries and hysterectomies
  - EBM measures for breast cancer screening, cervical cancer screening and Chlamydia screening.

Neurology

- Meeting specific thresholds on:
  - EBM quality measures for migraine treatment and medication management for patients using anticonvulsants.

Endocrinology

- NCQA recognition in Diabetes Recognition Program (DRP). At least 75% of providers in a practice must be recognized.

OR

- Meeting specific thresholds on:
  - a set of evidence based medicine (EBM) quality measures for Diabetes measures.

*These programs are now retired by NCQA, however, recognitions can be multi-year.

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Attributing Patients to a Practice

- Provider attribution varies by measure. For EBM measures the member is attributed to the provider with the most evaluation and management (E&M) office based encounters during a given time period among providers of the same specialty. For measures of procedure-centric complication rates, the member is attributed to provider of service for the procedure.

Quality Scoring

Designation based upon the EBM quality measures and procedural complication rates will use the following method:

The EBM quality measures are run for two 12 month time periods: Calendar year 2013 and calendar year 2014. All relevant procedures performed between 1/1/2013 and 12/31/2014 for which there is a completed episode of care is included.

A quality score requires at least 30 observations for a practice across any combination of measures and members. Gastroenterology, General Surgery, Orthopedic Surgery, Neurology and Endocrinology practices with insufficient data for quality will still be scored on efficiency and given designation based only on the efficiency score.

For EBM measures it is possible for a member to count more than once for a single provider on a single measure if the member qualified for the measure in both time periods. In addition, the member will count more than once for a provider if they qualify across several measures.

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Indirect standardization is used to create an expected score. The expected score is a weighted average score based on peer performance for each measure and weighted to reflect the mix of measures the practice has. This creates an expected practice level score that assumed the peers of the practice had the same mix of patients. The peer group for each practice consists of all practices in the state of North Carolina for which there were providers of the given specialty treating BCBSNC members during the relevant study time frame.

Quality scores are further weighted to provide more balanced scores across the different measures. This reflects the relative importance, but lower frequency, of procedural complications. The procedural complications were given greater weighting in the final scoring for Cardiology, Orthopedics and OBGYN (see Appendix A). For Gastroenterology, participation in a quality improvement program was weighted as 75% of the total quality score. For General Surgery, participation in a quality improvement program was weighted as 50% of the total quality score.

Illness burden is not adjusted for in the evaluation of quality.

A ratio is computed for actual quality compared to expected quality. With this ratio a score of 1 indicates that the practice performed exactly as expected compared to peers. A score below 1 indicates lower quality relative to what was expected. An example of the use of indirect standardization is illustrated in Appendix B.

A 90% confidence interval is computed for the provider quality ratio. The methodology to compute this score follows the methodology laid out by MedVantage for their Composite Quality Measure. It is a proprietary algorithm but involves using indirect standardization with a confidence interval based on a binomial distribution. The basic methodology was adopted from Harvard Pilgrim Health Care which is affiliated with Harvard Medical School.

The 90% confidence interval sets a low and high range. If the high end (upper boundary of the confidence interval) of the range is below 1, then the practice is designated with a Tier 2 status. This threshold can be interpreted to mean that, with 90% certainty, the practice has lower quality than their peers.

Efficiency Criteria

Three years of claims data is used to compute efficiency, though not every claim received during that time period is necessarily used. Only claims that are assigned to an 'episode of care' relevant to the specialty are included. The current claims period is for calendar year (CY) 2012 through (CY) 2014.

Episodes of Care

Efficiency scores look care that is grouped into an episode of care for the patient. Episodes of care are created using OptumInsight's ETG v7.6 Episode Treatment Grouper(ETG) logic and for general surgeons only, ETG v7.6 Procedure Episode Grouper (PEG) logic.

The ETG software looks across all types of claims to identify services that are related to the treatment of more than 500 specific conditions. All claims that are related to a specific condition and within a clinically defined time window are grouped together into an episode of care (ETG). These claims can be from many different providers. More detailed explanation of how episodes of care are created can be found at the following website: http://etg.optum.com/etg-links/learn-about-etgs/.

The PEG software looks across all claims to identify services related to a surgical procedure. The claims related to that procedure within a clinically defined time window are grouped into the procedure episode of care (PEG). Like the ETG grouper, these

claims can be from many different providers. More detailed explanation on the PEG grouper can be found at the following website: https://etg.optum.com/peg-links/learn-about-pegs/.

Attributing Episodes to a Practice

Episodes are attributed to only one practice. For ETG episodes, this attribution decision is based upon the practice that incurs the most charges for an episode, given that they represent at least 30% of total professional management and surgery charges. For the PEG episodes, it is the practice who performed the surgical procedure. If no practice is identified using this method then the episode is dropped.

Only episodes relevant to the specialty and assigned to a practice of that specialty type were included in the analysis. See Appendix C for the Base ETG's used by Specialty and the PEG's used for General Surgery and Appendix D for the specialist types included for each Specialty.

Efficiency is scored at the practice level.

A practice receives a score on efficiency only if they have at least 30 episodes attributed to them during the 36 month window across all of the Base ETGs or PEGs related to that specialty. Any practice with fewer than the 30 episodes required is designated as a Tier 2 Practice.

Additional Episode Details

Only completed episodes are included in the scoring. Acute ETG conditions and PEG episodes are complete when sufficient time has passed since services were rendered for the condition to indicate that the episode has ended. Chronic ETG episodes are all 12 months in duration.

Allowed amounts are used for all efficiency measures. Allowed amounts reflect both patient cost burden and that paid by BCBSNC. Pharmacy costs are included in the total allowed amount because the vast majority of BCBSNC members (> 85%) have pharmacy coverage and an analysis showed that excluding members without pharmacy coverage had no impact on practice level results.

Base ETGs and PEGs with less than 30 total episodes during the 3 year study period are dropped from use in the scoring method.

Data are weighted such that more current (2014) data have greater influence on scoring than the older (2012) episodes. This approach allows recent changes in practice styles, referral patterns and /or contracting to be reflected in the efficiency results.

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Indirect standardization is used to create an expected score for each practice. For ETGs, the expected score is a weighted average score based on yearly peer average cost for each combination of Base ETG, ETG severity level (up to four severity levels) and referral or shared episode indicator. Note that for years when there are not at least 30 benchmark cases at this level an overall 3 year benchmark is used.

Excluding neurologists, the referral indicator looks for referrals between providers of the same specialty during an episode that would indicate a more complex condition that requires sub-specialization. Generally, these episodes are more costly due to involvement of multiple specialists and the standardization method adjusts for this issue. For neurologists, the shared episode indicator looks for any ETG episodes shared by other neurologists or neurosurgeons or those shared with an Orthopedic Surgeon, Otolaryngologist or Psychiatrist for specific relevant ETGS.

For PEGs, the expected score is a weighted average score based on peer average cost for each combination of PEG and place of service (inpatient vs outpatient). Similar to ETGS, an overall 3 year benchmark is used at each PEG/place of service if there are not at least 30 cases to compute a benchmark.

The practice peer group identification varied by specialty. All peer groups only represent providers practicing in the state of North Carolina. The mix of services and conditions treated by a practice determined who their peer group was. Sub-groups were identified for Cardiology and Orthopedics. Cardiology practices were grouped into 'non-interventional', 'catheterization only', 'catheterization and implants', or 'all services' peer groups. Orthopedic practices were grouped into 'non-interventional', 'knee/arm/shoulder', 'spine', 'hand', or 'all services'. For these specialties, practices are only compared to their specific sub-group (For more information see in Appendix E).

General Surgery, OBGYN, Gastroenterology, Endocrinology and Neurology practices did not need to be grouped due to the types of services provided and the fact that the indirect standardization process helps control for case-mix differences.

The average cost for each combination of episodes is weighted to reflect the mix of episodes the practice has within their peer group. This creates an expected practice level total cost that assumes the practice's peers had the same mix of patients.

A ratio is computed for actual total costs over expected total costs using indirect standardization. This ratio reflects the weighting of actual and expected costs using each year's actual and expected scores when there are enough data to compute benchmarks by year. Episode start dates are used to determine which benchmark and weight to apply. An example of the use of indirect standardization is illustrated in Appendix B.

A 90% confidence interval is computed for the provider's ratio. The confidence interval is computed using a weighted mean methodology.

Providers whose lower bound of the confidence interval is above 1 and whose ratio score is greater than or equal to 1.1 are considered inefficient and are designated with a Tier 2 status.

Reducing the Influence of Outliers

Outliers were defined within each grouping of ETG by episode severity level or PEG/place of service.

- Low outliers are defined as the bottom 5% of the distribution and are deleted.
- High outliers are defined as the top 5% of the distribution and are capped (aka Winsorized) at the value which represents the 95th percentile within the ETG/severity level/ or PEG/place of service.

When there is a low frequency (<30) of episodes within an ETG/severity level/referral indicator the different levels of severity and/or referrals are collapsed to create a more robust peer average.

Appendix A

Cardiology Quality Measures and Weights

Measure	Weight assigned
Members 18 years of age and older during the measurement year who were hospitalized and discharged alive with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge.	count of all eligible members
Patients 18 years or older with a diagnosis of Heart Failure who also have left ventricular systolic dysfunction (LVSD) were prescribed ACEI or ARB therapy during the last 3 months of the measurement interval in the timeframe of analysis.	count of all eligible members
Patients 18 years or older with coronary artery or cardiac procedure received at least one lipid profile during the timeframe of analysis.	count of all eligible members
Patients 18 years or older with diagnoses of coronary artery disease or cardiac procedure were prescribed lipid-lowering therapy within the timeframe of analysis.	count of all eligible members
Patients 18 years or older with a diagnosis of HF and atrial fibrillation were prescribed warfarin during the timeframe of analysis.	count of all eligible members
Live hospital discharges for AMI in patients at least 18 years or older, who also have diabetes or CHF confirmed by at least one office visit, and were prescribed beta blockers and ACEI or ARBs within 3 months after AMI discharge in the timeframe of analysis.	count of all eligible members
Patients 18 years or older with a diagnosis of HF who also have LVSD were prescribed beta blocker therapy during the COT period in the timeframe of analysis.	count of all eligible members
Percentage of percutaneous coronary interventions with a potentially avoidable complication	count of all eligible procedures x 10

Orthopedic Quality Measures and Weights

Measure	Weight assigned
The percentage of members with a primary diagnosis of low back pain who did not have an imaging study (plain X-ray, MRI, CT scan) within 28 days of the diagnosis.	count of all eligible members
Percentage of knee arthroscopies with a potentially avoidable complication	Count of all eligible procedures x 2
Percentage of knee replacements with a potentially avoidable complication	Count of all eligible procedures x 2
Percentage of hip replacements with a potentially avoidable complication	Count of all eligible procedures x 2

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Gastroenterology Quality Measures and Weights

Measure	Weight assigned
Percentage of members treated for gastroesophageal reflux disease with a potentially avoidable complication	Count of all eligible members
Percentage of all colonoscopies with a potentially avoidable complication	Count of all eligible procedures
Participation in use of a quality improvement data registry (either the AGA Digestive Health Outcomes Registry® or the GI Quality Improvement Consortium registry)	Weighting to equal 75% relative to other two measures (but only if participating, non-participation is assigned zero weight)

General Surgery Quality Measures and Weights

Measure	Weight assigned
Percentage of colonoscopies with a potentially avoidable complication	Count of all eligible procedures
Percentage of cholecystectomies with a potentially avoidable complication	Count of all eligible procedures
Percentage of colon re-sections with a potentially avoidable complication	Count of all eligible procedures
Participation in the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP®) or the GI Quality Improvement Consortium, Ltd. registry (GIQuIC).	Weighting to equal 50% relative to other three measures (but only if participating, non-participation is assigned zero weight)

Neurology Quality Measures and Weights

Measure	Weight assigned
Members 18 years of age and older during the measurement year with a diagnosis of migraine and coronary artery disease (CAD) who did not have an active prescription for triptans or ergot derivatives during the previous 3 years.	count of all eligible members

Patients 18 years or older during the measurement year with frequent or severe migraine who have an active prescription for migraine preventive medications within the 3 months prior to measurement year.	count of all eligible members
Patients 18 years or older who received at least 180 days of ambulatory medication therapy for Barbiturate anticonvulsants during the measurement year and had at least one therapeutic monitoring event for the therapeutic agent in the measurement year.	count of all eligible members
Patients 18 years or older who received at least 180 days of ambulatory medication therapy for Hydantoin anticonvulsants during the measurement year and had at least one therapeutic monitoring event for the therapeutic agent in the measurement year.	count of all eligible members
Patients 18 years or older who received at least 180 days of ambulatory medication therapy for miscellaneous (Valproic acid) anticonvulsants during the measurement year and had at least one therapeutic monitoring event for the therapeutic agent in the measurement year.	count of all eligible members
Patients 18 years or older who received at least 180 days of ambulatory medication therapy for Dibenzazepine anticonvulsants during the measurement year and had at least one therapeutic monitoring event for the therapeutic agent in the measurement year.	count of all eligible members
Patients 18 years or older with a diagnosis of migraine who had a new prescription for narcotic analgesics (for migraine) within three months of the end of the measurement year, who also had an active prescription for migraine abortive medications within the ninety days prior to the initial prescription for narcotic analgesics.	count of all eligible members

OBGYN Quality Measures and Weights

Measure	Weight Assigned
The percentage of women 40–69 years of age who had a mammogram to screen for breast cancer.	Count of all eligible members
The percentage of women 21–64 years of age who received one or more Pap tests to screen for cervical cancer.	Count of all eligible members
The percentage of women 16–20 years of age who were identified as sexually active and who had at least one test for Chlamydia during the measurement year.	Count of all eligible members
The percentage of women 21–24 years of age who were identified as sexually active and who had at least one test for Chlamydia during the measurement year.	Count of all eligible members
Percentage of deliveries with a potentially avoidable complication	Count of all eligible procedures x 20
Percentage of hysterectomies with a potentially avoidable complication	Count of all eligible procedures x 20

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Endocrinology Quality Measures and Weights

Measure	Weight Assigned
Proportion of patients 18 years or older with diagnoses of hyperlipidemia and CAD Dx and no diabetes Dx anytime prior to the end of the measurement year, who were prescribed lipid-lowering therapy within the last 3 months of the measurement year.	Count of all eligible members
Proportion of patients 18 years or older with diagnoses of hyperlipidemia and diagnoses of diabetes Dx and no CAD Dx anytime prior to the end of the measurement year, who were prescribed lipid-lowering therapy within the last 3 months of the measurement year.	Count of all eligible members
The percentage of members 18–75 years of age with diabetes (type 1 and type 2) who had the following: • Hemoglobin A1c (HbA1c) testing.	Count of all eligible members
The percentage of members 18–75 years of age with diabetes (type 1 and type 2) who had the following: • Eye exam (retinal) performed.	Count of all eligible members
The percentage of members 18–75 years of age with diabetes (type 1 and type 2) who had the following: • LDL-C screening.	Count of all eligible members
The percentage of members 18–75 years of age with diabetes (type 1 and type 2) who had the following: • Medical attention for nephropathy.	Count of all eligible members

Appendix B

Example of Indirect Standardization

The following table shows a very simple example of how indirect standardization works when coming up with a ratio score (in this case for efficiency). A practice's expected cost is computed by multiplying the peer average cost for all NC providers in their peer group by the actual volume of episodes seen by that practice. The actual cost of the practice divided by their expected cost provides a ratio, where 1 represents the practice's actual costs are exactly the same as their peer's average cost.

ETG	Severity	Practice's count of episodes	Peer average episode cost	Practice's expected cost	Practice's actual cost
Inflammatory bowel dis.	1	100	$3,524	$352,400	$300,000
Inflammatory bowel dis.	2	10	$6,541	$65,410	$70,000
Inflammatory bowel dis.	3	1	$11,074	$11,074	$20,000
Sum				$428,884	$390,000
Efficiency ratio					0.91

Appendix C

Cardiology Base ETGs
162200: Hypo-functioning thyroid gland
163000: Diabetes
164700: Hyperlipidemia, other
164800: Obesity
316000: Cerebral vascular disease
386500: Ischemic heart disease
386600: Pulmonary heart disease
386800: Congestive heart failure
386900: Cardiomyopathy
387000: Aortic aneurysm
387100: Heart failure, diastolic
387200: Cardiac infection
387400: Valvular disorder
387500: Severe ventricular rhythms
387600: Severe heart block
387700: Other conduction disorders
387800: Atrial fibrillation & flutter
388100: Hypertension
388300: Cardiac congenital disorder
388700: Other cardiac diseases
389000: Arterial inflammation
389500: Non-cerebral, non-coronary atherosclerosis
389800: Other non-inflammatory arterial diseases
390300: Embolism & thrombosis of veins
390500: Phlebitis & thrombophlebitis of veins
390600: Varicose veins of lower extremity
391000: Other diseases of veins
399900: Cardiovascular diseases signs & symptoms

Orthopedic Base ETGs
164600: Gout
316500: Spinal trauma
316700: Hereditary & degenerative diseases of central nervous system, other
317100: Congenital disorders of central nervous system
317500: Carpal tunnel syndrome

317700: Inflammation of non-cranial nerves, except carpal tunnel
318300: Traumatic disorders of non-cranial nerves
318400: Congenital disorders of peripheral nerves
668901: Open wound - foot & ankle
668902: Open wound - lower leg
668904: Open wound - hand & forearm
668905: Open wound - elbow & upper arm
669001: Skin trauma, except burn & open wound - foot & ankle
669002: Skin trauma, except burn & open wound - lower leg
669003: Skin trauma, except burn & open wound - hip & thigh
669004: Skin trauma, except burn & open wound - hand & forearm
669005: Skin trauma, except burn & open wound - elbow & upper arm
669006: Skin trauma, except burn & open wound – shoulder
669009: Skin trauma, except burn & open wound – trunk
669010: Skin trauma, except burn & open wound – other
711101: Infection of bone & joint - foot & ankle
711102: Infection of bone & joint - knee & lower leg
711103: Infection of bone & joint - thigh, hip & pelvis
711104: Infection of bone & joint - hand, wrist & forearm
711105: Infection of bone & joint - elbow & upper arm
711106: Infection of bone & joint – shoulder
711112: Infection of bone & joint – unspecified
711901: Major joint inflammation - foot & ankle
711902: Major joint inflammation - knee & lower leg
711903: Major joint inflammation - thigh, hip & pelvis
711904: Major joint inflammation - hand, wrist & forearm
711905: Major joint inflammation - elbow & upper arm
711906: Major joint inflammation – shoulder
711908: Major joint inflammation – back
711910: Major joint inflammation – other
711912: Major joint inflammation – unspecified
712000: Osteoporosis
712201: Joint degeneration, localized - foot & ankle
712202: Joint degeneration, localized - knee & lower leg
712203: Joint degeneration, localized - thigh, hip & pelvis
712204: Joint degeneration, localized - hand, wrist & forearm
712205: Joint degeneration, localized - elbow & upper arm
712206: Joint degeneration, localized – shoulder
712208: Joint degeneration, localized – back
712211: Joint degeneration, localized – neck
712212: Joint degeneration, localized – unspecified

712901: Open fracture or dislocation of lower extremity - foot & ankle
712902: Open fracture or dislocation of lower extremity - knee & lower leg
712903: Open fracture or dislocation - thigh, hip & pelvis
712904: Open fracture or dislocation of upper extremity - hand, wrist & forearm
712905: Open fracture or dislocation of upper extremity - elbow & upper arm
712906: Open fracture or dislocation of upper extremity – shoulder
712909: Open fracture or dislocation – trunk
713101: Closed fracture or dislocation of lower extremity - foot & ankle
713102: Closed fracture or dislocation of lower extremity - knee & lower leg
713103: Closed fracture or dislocation - thigh, hip & pelvis
713104: Closed fracture or dislocation of upper extremity - hand, wrist & forearm
713105: Closed fracture or dislocation of upper extremity - elbow & upper arm
713106: Closed fracture or dislocation of upper extremity – shoulder
713109: Closed fracture or dislocation of trunk
713900: Malignant neoplasm of bone & connective tissue, other than head & neck
714100: Non-malignant neoplasm of bone & connective tissue, other than head & neck
714301: Joint derangement - foot & ankle
714302: Joint derangement - knee & lower leg
714303: Joint derangement - thigh, hip & pelvis
714304: Joint derangement - hand, wrist & forearm
714305: Joint derangement - elbow & upper arm
714306: Joint derangement – shoulder
714312: Joint derangement – unspecified
714501: Major trauma, other than fracture or dislocation - foot & ankle
714502: Major trauma, other than fracture or dislocation - knee & lower leg
714503: Major trauma, other than fracture or dislocation - thigh, hip & pelvis
714504: Major trauma, other than fracture or dislocation - hand, wrist & forearm
714505: Major trauma, other than fracture or dislocation - elbow & upper arm
714506: Major trauma, other than fracture or dislocation – shoulder
714512: Major trauma, other than fracture or dislocation – unspecified
714601: Minor orthopedic trauma - foot & ankle
714602: Minor orthopedic trauma - knee & lower leg
714603: Minor orthopedic trauma - thigh, hip & pelvis
714604: Minor orthopedic trauma - hand, wrist & forearm
714605: Minor orthopedic trauma - elbow & upper arm
714606: Minor orthopedic trauma – shoulder
714608: Minor orthopedic trauma – back
714609: Minor orthopedic trauma – trunk
714611: Minor orthopedic trauma – neck
714612: Minor orthopedic trauma – unspecified
714801: Bursitis & tendinitis - foot & ankle

714802: Bursitis & tendinitis - knee & lower leg
714803: Bursitis & tendinitis - thigh, hip & pelvis
714804: Bursitis & tendinitis - hand, wrist & forearm
714805: Bursitis & tendinitis - elbow & upper arm
714806: Bursitis & tendinitis – shoulder
714812: Bursitis & tendinitis – unspecified
714901: Other minor orthopedic disorders - foot & ankle
714902: Other minor orthopedic disorders - knee & lower leg
714903: Other minor orthopedic disorders - thigh, hip & pelvis
714904: Other minor orthopedic disorders - hand, wrist & forearm
714905: Other minor orthopedic disorders - elbow & upper arm
714906: Other minor orthopedic disorders – shoulder
714908: Other minor orthopedic disorders – back
714911: Other minor orthopedic disorders – neck
714912: Other minor orthopedic disorders – unspecified
715101: Orthopedic deformity - foot & ankle
715102: Orthopedic deformity - knee & lower leg
715103: Orthopedic deformity - thigh, hip & pelvis
715104: Orthopedic deformity - hand, wrist & forearm
715105: Orthopedic deformity - elbow & upper arm
715106: Orthopedic deformity – shoulder
715108: Orthopedic deformity - back
715109: Orthopedic deformity - trunk
715111: Orthopedic deformity - neck
715112: Orthopedic deformity - unspecified
779700: Conditional exam
779800: Major specific procedures not classified elsewhere
780100: Other preventative & administrative services
821000: Late effects & late complications

Gastroenterology Base ETGs
208200: Iron deficiency anemia
473100: Infection of stomach & esophagus
473300: Inflammation of esophagus
473500: Gastritis &/or duodenitis
473800: Ulcer
474000: Malignant neoplasm of stomach & esophagus
474200: Non-malignant neoplasm of stomach & esophagus
474400: Trauma of stomach or esophagus
474500: Anomaly of stomach or esophagus
474900: Diverticulitis & diverticulosis

475000: Other infectious diseases of intestines & abdomen
475200: Other inflammation of intestines & abdomen
475300: Inflammatory bowel disease
475400: Malignant neoplasm of large intestine
475500: Malignant neoplasm of small intestine & abdomen
475600: Non-malignant neoplasm of intestines & abdomen
476000: Congenital anomalies of intestines & abdomen
476100: Vascular diseases of intestines & abdomen
476300: Bowel obstruction
476400: Irritable bowel syndrome
476600: Hernias, except hiatal
476800: Hiatal hernia
476900: Other diseases of intestines & abdomen
477100: Infection of rectum or anus
477400: Hemorrhoids
477600: Inflammation of rectum or anus
477800: Malignant neoplasm of rectum or anus
478000: Non-malignant neoplasm of rectum or anus
478500: Other diseases & disorders of rectum & anus
479900: Gastroenterology diseases signs & symptoms
521400: Infectious hepatitis
521600: Non-infectious hepatitis
521800: Cirrhosis
521900: Acute pancreatitis
522000: Chronic pancreatitis
522300: Cholelithiasis
522500: Malignant neoplasm of hepatobiliary system
522700: Non-malignant neoplasm of hepatobiliary system
523200: Other diseases of hepatobiliary system

General Surgery Base ETGs
162100: Hyper-functioning thyroid gland
162200: Hypo-functioning thyroid gland
162400: Malignant neoplasm of thyroid gland
163900: Hyper-functioning parathyroid gland
316000: Cerebral vascular disease
389000: Arterial inflammation
389500: Non-cerebral, non-coronary atherosclerosis
390300: Embolism & thrombosis of veins
390500: Phlebitis & thrombophlebitis of veins
390600: Varicose veins of lower extremity
391000: Other diseases of veins
473300: Inflammation of esophagus

474900: Diverticulitis & diverticulosis
475200: Other inflammation of intestines & abdomen
475300: Inflammatory bowel disease
475400: Malignant neoplasm of large intestine
475500: Malignant neoplasm of small intestine & abdomen
475600: Non-malignant neoplasm of intestines & abdomen
476100: Vascular diseases of intestines & abdomen
476300: Bowel obstruction
476800: Hiatal hernia
476900: Other diseases of intestines & abdomen
477100: Infection of rectum or anus
477400: Hemorrhoids
477600: Inflammation of rectum or anus
477800: Malignant neoplasm of rectum or anus
478000: Non-malignant neoplasm of rectum or anus
478500: Other diseases & disorders of rectum & anus
521900: Acute pancreatitis
522000: Chronic pancreatitis
522500: Malignant neoplasm of hepatobiliary system
522700: Non-malignant neoplasm of hepatobiliary system
523200: Other diseases of hepatobiliary system
635600: Malignant neoplasm of breast
635800: Non-malignant neoplasm of breast
636000: Other disorders of breast
666900: Psoriasis
667000: Chronic skin ulcers
667200: Bacterial infection of skin
667800: Other inflammation of skin
668000: Malignant neoplasm of skin, major
668200: Non-malignant neoplasm of skin
668901: Open wound - foot & ankle
668902: Open wound - lower leg
668903: Open wound - hip & thigh
668904: Open wound - hand & forearm
668905: Open wound - elbow & upper arm
668907: Open wound - head & face
668909: Open wound - trunk
668912: Open wound - unspecified
669001: Skin trauma, except burn & open wound - foot & ankle
669002: Skin trauma, except burn & open wound - lower leg
669003: Skin trauma, except burn & open wound - hip & thigh

669004: Skin trauma, except burn & open wound - hand & forearm
669006: Skin trauma, except burn & open wound - shoulder
669007: Skin trauma, except burn & open wound - head & face
669009: Skin trauma, except burn & open wound - trunk
669010: Skin trauma, except burn & open wound - other
669012: Skin trauma, except burn & open wound - unspecified
714100: Non-malignant neoplasm of bone & connective tissue, other than head & neck
714901: Other minor orthopedic disorders - foot & ankle
714904: Other minor orthopedic disorders - hand, wrist & forearm
714908: Other minor orthopedic disorders - back
714911: Other minor orthopedic disorders - neck
714912: Other minor orthopedic disorders - unspecified
821000: Late effects & late complications

General Surgery PEGs
70111: APPENDECTOMY
70212: CHOLECYSTECTOMY
70411: ESOPHAGOPLASTY/FUNDOPLASTY
70911: LOWER GI REMOVAL
71511: REPAIR, INGUINAL HERNIA
71711: REPAIR, UMBILICAL HERNIA
71811: UPPER GI REMOVAL
707111: GI RESTRICTIVE PROCEDURE_BAND
707112: GI RESTRICTIVE PROCEDURE_SLEEVE
707113: GI RESTRICTIVE PROCEDURE_BYPASS

OBGYN Base ETGs
164300: Female sex gland disorders
587100: Infection of upper genitourinary system
587200: Sexually transmitted diseases, primary
587300: Sexually transmitted diseases, disseminated
587400: Infection of lower genitourinary system, not sexually transmitted
588000: Inflammation of genitourinary system, except kidney stones
588800: Non-malignant neoplasm of genitourinary system, except prostate
589000: Trauma to genitourinary system
589200: Urinary incontinence
589500: Other diseases of genitourinary system
601100: Pregnancy, with delivery
602100: Ectopic pregnancy
602200: Spontaneous abortion
602300: Induced abortion

633200: Infection of ovary &/or fallopian tubes
633500: Infection of uterus
633700: Infection of cervix
633900: Monilial infection of vagina (yeast)
634000: Infection of vagina except monilial
634200: Endometriosis
634300: Inflammatory condition of female genital tract, except endometriosis
634400: Malignant neoplasm of cervix
634500: Malignant neoplasm of ovaries
634600: Malignant neoplasm of uterus
634700: Non-malignant neoplasm of female genital tract
634900: Conditions associated with menstruation
635100: Conditions associated with infertility
635300: Other diseases of female genital tract
635600: Malignant neoplasm of breast
635800: Non-malignant neoplasm of breast
636000: Other disorders of breast
667300: Viral skin infection
712000: Osteoporosis
748000: Uncomplicated neonatal management
748500: Other disorders, antenatal origin
748700: Other neonatal disorders, perinatal origin
779000: Exposure to infectious diseases
779400: Routine exam
779600: Contraceptive management

Neurology Base ETGs
316900: Migraine headache
405300: Other disorders of ear/nose/throat
319900: Neurological diseases signs & symptoms
869900: Isolated signs, symptoms & non-specific diagnoses or conditions
315200: Epilepsy
317700: Inflammation of non-cranial nerves, except carpal tunnel
315100: Multiple sclerosis
318600: Other neurological diseases
712208: Joint degeneration, localized - back
316000: Cerebral vascular disease
712211: Joint degeneration, localized - neck
317100: Congenital disorders of central nervous system
318400: Congenital disorders of peripheral nerves

316700: Hereditary & degenerative diseases of central nervous system, other
317300: Inflammation of cranial nerves
317500: Carpal tunnel syndrome
240600: Other neuropsychological or behavioral disorders
714911: Other minor orthopedic disorders - neck
316800: Parkinson's disease
315000: Inflammation of central nervous system, other
316300: Brain trauma
353600: Visual disturbances
714908: Other minor orthopedic disorders - back
240100: Attention deficit disorder
714912: Other minor orthopedic disorders - unspecified
350600: Inflammatory eye disease
239100: Organic drug or metabolic disorders
353700: Other & unspecified diseases & disorders of eye & adnexa
315600: Non-malignant neoplasm of central nervous system
316400: Alzheimer's disease
318300: Traumatic disorders of non-cranial nerves
714611: Minor orthopedic trauma - neck
714608: Minor orthopedic trauma - back
715108: Orthopedic deformity - back
239000: Dementia
314300: Nonviral encephalitis
316600: Amyotrophic lateral sclerosis
715101: Orthopedic deformity - foot & ankle
712202: Joint degeneration, localized - knee & lower leg
239200: Autism & child psychoses
317900: Peripheral nerve neoplasm
714901: Other minor orthopedic disorders - foot & ankle
715107: Orthopedic deformity - head & face
712212: Joint degeneration, localized - unspecified
714601: Minor orthopedic trauma - foot & ankle
712204: Joint degeneration, localized - hand, wrist & forearm

Endocrinology Base ETGs
162200: Hypo-functioning thyroid gland
163000: Diabetes
162300: Non-toxic goiter

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162100: Hyper-functioning thyroid gland
388100: Hypertension
162400: Malignant neoplasm of thyroid gland
164400: Male sex gland disorders
165300: Other diseases of endocrine glands
164500: Nutritional deficiency
712000: Osteoporosis
164800: Obesity
163400: Non-malignant neoplasm of pituitary gland
169900: Endocrine disease signs & symptoms
164300: Female sex gland disorders
165100: Other metabolic disorders
162600: Other diseases of thyroid gland
164700: Hyperlipidemia, other
163900: Hyper-functioning parathyroid gland
163600: Hypo-functioning adrenal gland
163500: Hyper-functioning adrenal gland
163800: Non-malignant neoplasm of adrenal gland
164000: Hypo-functioning parathyroid gland
162500: Non-malignant neoplasm of thyroid gland
352400: Diabetic retinopathy
163300: Malignant neoplasm of pituitary gland
163700: Malignant neoplasm of adrenal gland
164100: Malignant neoplasm of parathyroid gland
162000: Lipidoses (Gaucher's Disease, Fabry's Disease, Mucolipidosis I-III)

Appendix D

Specialty types included as part of the peer groups

Provider Specialty	Specialty Codes
Cardiology	Cardiovascular Disease
Endocrinology	Endocrinology
Orthopedics	Orthopedic Surgery
	Physician Assistants
	Sports Medicine
Gastroenterology	Gastroenterology
	Ambulatory Surgery Center
General Surgery	General Surgery
	Colorectal Surgery
	Physician Assistants
	Proctology
Neurology	Neurology
OBGYN	Obstetrics
	OBGYN
	Gynecology
	OBGYN Group
	OB&GYN
	Midwife, Certified Nurse
	NP-OBGYN
	NP-Women's Health

Appendix E

Cardiology Subspecialty Peer Groups

Full Label	Description
Non-Interventionist	A practice with low treatment rates on their episodes- under 10%
Catheterizations Only	Practice does catheterizations (stents and angioplasties), but no more involved treatments
Implants and Catheterizations	Practice does catheterizations, and implants, but no more involved treatments
All Services	Practices does all kinds of treatments- catheterizations, implants, and electrophysiology studies

Ortho Subspecialty Peer Groups

Full Label	Description
Low Treatment	Practice has treatment procedures on 10% or fewer of their episodes
Spine/Neck/Back	Specialist- Spine, Neck and Back
Knee, Arm,, and Shoulder	Specialist – Knee, Arm and Shoulders
Hand/Wrist	Specialist- Hand, Carpal Tunnel
All Services	All other general Orthopedic practices