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Hospital Reclassification
Cost Measurement Methodology

Overview

We reclassify hospitals based on results for a set of quality and cost metrics. (See the enclosed *Hospital Reclassification Quality Measurement Methodology* for details about our quality metrics.) All hospitals begin in the middle (Standard Benefits) tier, and move to either the higher (Enhanced Benefits) or lower (Basic Benefits) tier depending on cost and quality performance.

Cost measurement for hospital network reclassification is based on blended HMO/PPO inpatient and outpatient payment rate comparisons within regions.

Data

- To determine your tier classification, we use your hospital rates in effect on January 1, 2012
- To determine average regional rates, we use your hospital rates in effect as of January 1, 2012
- For weighting purposes, we use paid claims with dates of service from October 1, 2010 through September 30, 2011 and paid through December 31, 2011.

Mapping/Analysis

- We separate hospitals into five regions: Greater Boston, Northeast, Southeast, Central, and Western.

- Within each region, we then calculate a blended HMO/PPO rate using each hospital's actual split of inpatient and outpatient payments by product.

    - For inpatient rate comparisons, we use each hospital's inpatient standard rates as the basis for comparisons by hospital and by region.

    - We calculate a single blended outpatient base allowable fee multiplier for each facility using the hospital's specific payment levels and the network average payments as the weight for each outpatient service category.

- We then calculate average regional rates using applicable individual hospital rates in that region weighted by their percentage of total claims for the region. Tertiary and Specialty hospitals are not separated from the regions. Inpatient and Outpatient are treated separately to develop standard deviations from the mean for each region**.**

- For each hospital, inpatient and outpatient differences from the mean are measured and blended into a single overall score using the inpatient / outpatient claims weight of each institution.

- To align with regulatory requirements, some non-standard business decisions are made to ensure that all members have access to care in accordance with the standards established by the Massachusetts Division of Insurance.

- We place hospitals that are reimbursed through a non-standard payment methodology in the Basic Benefits Tier absent any cost comparison.

*BCBSMA refers to Blue Cross and Blue Shield of Massachusetts, Inc., Blue Cross and Blue Shield of Massachusetts HMO Blue®, Inc., and/or Massachusetts Benefit Administrators, LLC, based on Product participation.

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Hospital Reclassification
Quality Measurement Methodology

Clinical Quality Measures

We reclassify hospitals based on results for a set of quality and cost metrics. (See the enclosed *Hospital Tiering Cost Measurement Methodology* for details about our cost metrics.) All hospitals begin in the middle (Standard Benefits) tier, and move to either the higher (Enhanced Benefits) or lower (Basic Benefits) tier depending on cost and quality performance.

Quality measurement for hospital network reclassification includes 26 indicators from 7 broad areas (domains), shown in the table below, that reflect nationally accepted and validated measure sets from the Centers for Medicare & Medicare Services (CMS) and the Agency for Healthcare Research and Quality (AHRQ) of clinical process, outcomes, and patient experience. Providers' results in these indicators are based on all-payer data received from the state.

For each clinical process and outcomes indicator developed by CMS or AHRQ, we established the sample size required to obtain stable and reliable information about hospital-level performance. Hospitals are only evaluated on the set of measures for which they have sufficient sample to provide stable and reliable information about performance.

- Hospitals with sufficient samples to be measured on three or more performance domains **including at least one surgical domain** are defined as having sufficient data to summarize overall quality.
- Hospitals without sufficient sample to be measured on three or more performance domains are considered to have insufficient data to define an overall quality score for tiering.
- Specialty hospitals designated as Lowest Cost by our cost tiering methodology may be evaluated on validated quality measures pertinent to their specialty if national specialty benchmarks on the measures are available.

Quality Domain	Measure (Based on CMS data for April 1, 2010 - March 31, 2011 except as indicated)	
AMI Care	Aspirin at discharge	
Heart Failure Care	ACEI/ARB for LVSD	Discharge instructions
	LVS function evaluation	
Community-Acquired Pneumonia	Blood culture	Antibiotic selection
Surgical Care Improvement Project (SCIP)	Perioperative beta-blocker	Antibiotic received
	Urinary catheter removal	Antibiotic discontinued
	Appropriate VTE prophylaxis received	Received appropriate preventive antibiotic(s)
	VTE prophylaxis ordered	
Outcomes (Based on AHRQ data for FY 2010)	Post-operative Respiratory Failure	Obstetrics trauma--vaginal with instrument
	Post-operative PE/DVT	Obstetrics trauma--vaginal w/o instrument
	Accidental puncture or laceration	Central venous catheter associated blood stream infections
	Iatrogenic pneumothorax	
Outpatient Surgical Care	Prophylactic antibiotic selection	Timing of antibiotic prophylaxis
Patient Experience	Discharge instructions	Communication, doctors
	Responsiveness	Communication, nurses

Performance Benchmark for Quality Measurement

For each quality indicator, the BCBSMA benchmark for tiering was set at the median score (50th Percentile) across our hospital network, and a "buffer" was created around the benchmark so that hospitals scoring very close to the benchmark, but still below it, were treated as having met the benchmark. The buffer methodology ensures that the risk of incorrectly classifying a hospital as below the benchmark is less than five percent.

Hospitals with sufficient data to be evaluated on quality that failed the benchmarks for at least 50 percent of their overall measure set **and** at least 50 percent of their Process and Outcomes measures did **not** pass the Overall Quality Threshold for reclassification. They therefore could not be placed in the Enhanced Benefit tier. They will be placed in the Standard or Basic tier, depending on their cost result.

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PCP Group Tier Reclassification

Cost Efficiency Methodology

Metric

- Cost Efficiency is measured using Health Status-Adjusted Total Medical Expense (TME) per member per month (PMPM).
- Health Status-Adjusted TME incorporates both fee-for-service (FFS) and non-FFS expenses such as risk surplus/deficit, quality incentives, and capitation payments.
- The Health Status Adjustment is generated using the DxCG Risk Solutions methodology provided by Verisk Health.

Data

- The data include all fully insured and ASC (self-insured) HMO/POS members with claims incurred between January 1, 2011 – December 31, 2011 and paid through January 31, 2012.
- Claims for members who incurred greater than $100,000 in claims throughout the measurement period are truncated at $100,000.

Methodology

- PCPs are tiered at the PCP group level.
- PCP groups are separated into five geographic locations: Greater Boston, Northeast, Southeast, Central, and West.
- For each PCP group, the Health Status (HS) -adjusted TME is evaluated and benchmarked separately for pediatric patients and adult patients.
- To calculate the PCP group's Pediatric Cost Efficiency Index, we compare the HS-adjusted TME for the PCP *group's* pediatric patients against the health status adjusted TME for the *region's* pediatric patients.
- To calculate the PCP group's Adult Cost Efficiency Index, we compare the HS-adjusted TME for the PCP *group's* adult patients against the HS-adjusted TME for the *region's* adult patients.
- To calculate the PCP group's Blended Cost Efficiency Index, the PCP group's pediatric and adult cost efficiency indices are blended by the respective pediatric and adult membership. The Blended Cost Efficiency Index is the PCP group's final cost efficiency score.

Examples of this process are shown below:

	A	B	C	D	
PCP Group	% Pediatric (Membership)	Pedi Cost Efficiency: (Group HS-adjusted TME) ÷ (Region HS-adjusted TME)	% Adults (Membership)	Adult Cost Efficiency: (Group HS-adjusted TME) ÷ (Region HS-adjusted TME)	Blended Efficiency Index (A*B + C*D)
1	75%	0.5	25%	1.0	0.63
2	25%	0.5	75%	1.0	0.88
3	5%	2.5	95%	1.1	1.17

Treatment of Insufficient Data

Groups with fewer than 1,000 average HMO/POS members over the measurement period will be identified as having insufficient data for reliable cost efficiency measurement.

Performance Benchmark for Cost Measurement

Movement out of the Standard Benefit tier for cost is developed using a 90% confidence interval based on the size of a provider group's member panel.

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PCP Group Tier Reclassification

Quality Measurement Methodology

Overview

Primary care providers (PCPs) are tiered at the provider group level. For both cost and quality, only groups that have sufficient sample size to provide statistically reliable information on that measure are scored. Quality measures include 24 indicators and reflect nationally accepted and validated measures in three broad categories: clinical process, outcomes, and patient care experience.

PCP groups are initially placed in the Standard Benefits tier and individual PCP groups either remain in the Standard Benefits tier or move to the Enhanced Benefit or Basic Benefit tier based on cost and quality performance. Later this summer, BCBSMA will communicate about the tier placement process and your group's tier.

Quality Scores Used For Tiering

PCP group quality measurement is based on a combination of clinical and patient experience measures derived from nationally accepted and extensively validated indicator sets, described in more detail provided to your group.

- **HEDIS Clinical Quality Indicators Data.** Clinical process and outcome measures include 16 indicators from the HEDIS set. Scores are based on care provided in the 2011 calendar year and are calculated at the Group Level. Individual BCBSMA members in our commercial HMO/POS and Medicare HMO Blue products are assigned to PCPs based on their designated PCP as of December 31, 2011, or at the time of a specific event for the given measure (members in other products have not designated a PCP). We use the most current clinical performance HEDIS data available.
- **MHQP Patient Experience Survey Data.** Patient experience measures are drawn from the 2009 validated survey administered biannually by Massachusetts Health Quality Partners (MHQP). The survey is based on the nationally accepted standard survey for measuring patients' experiences with ambulatory care providers and practices. We use the most current MHQP Patient Experience data available.

Sample Size Requirements

For each quality indicator (HEDIS, MHQP), we established the sample size required to obtain stable and reliable information about group-level performance.

- All groups with sufficient sample on four or more HEDIS measures are considered eligible for evaluation of overall quality for purposes of tiering.
- Groups with sufficient sample for only three HEDIS measures are only considered to have enough information if two of these measures were screening/well-care indicators and the third was related to either chronic or acute care management.
- In addition, groups are considered to have *insufficient* data for purposes of evaluating quality for tiering if they have fewer than three HEDIS measures with sufficient sample for reliable measurement.
- Only groups with sufficient information on which to evaluate overall quality have the potential to achieve placement in the Enhanced Benefit tier.

Initial Performance Benchmark for Quality Measurement

For each quality indicator, we have set a benchmark for tiering at the median score (50^{th} percentile) among our PCP groups, and created a buffer around the benchmark. Groups scoring very close to but below the benchmark are treated as having met the benchmark. The buffer methodology ensures that the risk of classifying a group as below the benchmark incorrectly is less than 5%. Among groups with sufficient data to be evaluated on quality, those meeting the benchmark for at least 40 percent of their measures were designated as having passed the Overall Quality Threshold for tiering.