

2014 MEASURE INFORMATION ABOUT THE PER CAPITA COSTS FOR ALL ATTRIBUTED BENEFICIARIES MEASURE, CALCULATED FOR THE VALUE-BASED PAYMENT MODIFIER PROGRAM

A. Measure Name

Per Capita Costs for All Attributed Beneficiaries measure

B. Measure Description

The Per Capita Costs for All Attributed Beneficiaries measure is a payment-standardized, risk-adjusted, and specialty-adjusted¹ measure that evaluates the overall efficiency of care provided to beneficiaries attributed to solo practitioners and groups of practitioners, as identified by their Taxpayer Identification Number (TIN).²

C. Rationale

To support the efforts of TINs that are working to efficiently provide high-quality care to their Fee-for-Service (FFS) Medicare beneficiaries, the Per Capita Costs for All Attributed Beneficiaries measure provides meaningful information about the costs associated with delivering care to beneficiaries attributed to TINs.

The Centers for Medicare & Medicaid Services (CMS) uses the Per Capita Costs for All Attributed Beneficiaries measure in combination with the Medicare Spending per Beneficiary (MSPB) and Per Capita Costs For Beneficiaries with Specific Conditions measures to determine each TIN's relative cost of care. Information on TINs' performance on this measure is included in the Mid-Year and Annual Quality and Resource Use Reports (QRURs) and used in the calculation of the Value Modifier.

D. Measure Outcome (Numerator)

The outcome for this measure is per capita Medicare Part A and Part B costs that are payment standardized, risk adjusted, and specialty adjusted (see the links to additional resources

¹ See the descriptions of payment standardization, risk adjustment, and specialty adjustment below for more information.

² See the description of attribution below for more information.

and descriptions of payment standardization, risk adjustment, and specialty adjustment in section H for more detail on measure construction).³

E. Population Measured (Denominator)

After applying the exclusions outlined in section F, all Medicare beneficiaries who received Medicare-covered services and are attributed to a TIN during the performance period are included in the calculation of the TIN's Per Capita Costs for All Attributed Beneficiaries. Beneficiary attribution follows a two-step process (described in section H) that assigns a beneficiary to the TIN if the TIN's physicians or certain non-physician practitioners provided more primary care services to the beneficiary than did any other TIN.

F. Exclusions

Beneficiaries are excluded from the population measured if they meet any of the following conditions:

- were enrolled in Medicare Part A only or Medicare Part B only for any month during the performance period
- were not enrolled in both Medicare Part A and Part B for every month during the performance period
- were enrolled in Medicare managed care (for example, a Medicare Advantage plan) for any month during the performance period
- resided outside the United States, its territories, and its possessions for any month during the performance period

G. Data Collection Approach and Measure Collection

This measure is calculated from Part A and Part B FFS Medicare administrative claims for services provided during the performance period that include inpatient hospital; outpatient hospital; skilled nursing facility; home health; hospice; durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS); and Medicare carrier (non-institutional physician/supplier) claims. The measure also uses Medicare beneficiary enrollment data to capture patient characteristics. This measure does not require any additional measure submission by TINs. Medicare Part A and B claims are used to attribute beneficiaries to TINs for this measure, as described below. Part D-covered prescription drug costs are not included in the calculation of the Per Capita Costs for All Attributed Beneficiaries.

H. Methodological Information and Measure Construction

Attribution. Beneficiaries are attributed to TINs for the Per Capita Costs for All Attributed Beneficiaries measure using a two-step process. Only beneficiaries who received a primary care

³ This measure does not have a traditional numerator and denominator like a process of care measure; see risk adjustment and other resources below for more detail on measure construction.

service from a physician are considered in attribution. First, a beneficiary is attributed to a TIN if the TIN's primary care physicians (PCPs)—defined as family practice, internal medicine, geriatric medicine, or general practice physicians⁴—accounted for a larger share (plurality) of allowed charges for primary care services (as shown in Table 3) than PCPs for any other TIN.⁵ Second, beneficiaries who did not receive a primary care service from a PCP are assigned to a TIN if the non-PCP physicians, nurse practitioners, clinical nurse specialists, and physician assistants in the TIN accounted for a larger amount of total Medicare allowed charges for primary care services than any other TIN.

Payment standardization. The Per Capita Costs for All Attributed Beneficiaries measure is payment standardized to take into account payment factors that are unrelated to the care provided (such as add-on payments for medical education and geographic variation in Medicare payment amounts). The standardized payment methodology achieves the following:

1. Eliminates adjustments made to national allowed payment amounts to reflect differences in regional labor costs and group expenses (measures by hospital wage indexes and geographic practice cost indexes).
2. Eliminates payments not directly related to services rendered, such as graduate medical education, indirect medical education, and disproportionate share hospital payments to hospitals.
3. Substitutes a national amount for services paid on the basis of state fee schedules.
4. Maintains differences in actual payments resulting from the choice of setting in which a service is provided, the choice of who provides the service, and the choice of whether to provide multiple services in the same encounter.
5. Adjusts outlier payments for differences in area wages.

Risk adjustment. Risk adjustment accounts for beneficiary-level risk factors that can affect medical costs, regardless of the care provided. A TIN's risk-adjusted cost is calculated as the ratio of the TIN's actual payment-standardized, non-risk-adjusted per capita cost to its expected payment-standardized per capita cost multiplied by the average payment-standardized, non-risk-adjusted cost across all beneficiaries attributed to a TIN. If a TIN's payment-standardized and risk-adjusted per capita cost is less than its payment-standardized, non-risk-adjusted per capita cost, then the TIN's costs were less than expected given the risk of its attributed beneficiaries.

The measure of beneficiary risk inputted into the risk-adjustment algorithm is the beneficiary's relevant CMS-HCC risk score. A beneficiary risk score of 1 indicates risk associated with expenditures for the average beneficiary nationwide. A beneficiary risk score greater (less) than 1 indicates above (below) average risk. For new enrollees without a full year

⁴ These specialties are defined using the following CMS specialty codes: general practice (01), family practice (08), internal medicine (11), and geriatric medicine (38).

⁵ In the 2015 Physician Fee Schedule Final Rule, CMS finalized a change to the attribution methodology. Beginning with the Value Modifier that will be applied in 2017, CMS will include non-physician practitioners (nurse practitioners, clinical nurse specialists, and physician assistants) in the first step of attribution and will no longer require that a beneficiary receive primary care services from a physician to be attributed to a TIN.

of medical history, the risk score is a function of age, sex, and disability status, whereas for beneficiaries with 12 months of medical history, the risk score is based on age, sex, original reason for Medicare entitlement (age or disability), Medicaid enrollment, and medical history. Medical history is assessed using ICD-9 diagnosis codes from Medicare claims and spanning 70 HCC categories that have related disease characteristics and costs.

The per capita cost risk-adjustment model is prospective—in the sense that it uses prior year (2013) risk factors to predict current year (2014) per capita costs⁶—to ensure that the model measures the influence of health on the treatment provided (costs incurred), rather than capturing the influence of treatment on a beneficiary’s health status.

To limit the influence of outliers on the calculation of risk-adjusted costs, attributed beneficiaries across all TINs with costs in the bottom 1 percent of the payment-standardized (but non-risk-adjusted) distribution of costs are excluded before estimating the QRUR risk-adjustment model. The payment-standardized, non-risk-adjusted costs of beneficiaries with costs exceeding the 99th percentile are reset to the 99th percentile value.

The risk-adjustment model estimates the relationship between a beneficiary’s payment-standardized Part A and Part B expenditures and the beneficiary’s risk score, the squared value of that risk score, and whether the beneficiary has ESRD.⁷ CMS uses this relationship to compute for each beneficiary an expected cost as a function of the risk score and ESRD status. A TIN’s expected per capita costs are equal to the sum of expected costs of all attributed beneficiaries, divided by the number of attributed beneficiaries. As noted earlier, each TIN’s risk-adjusted per capita cost is computed as the ratio of non-risk-adjusted per capita costs to expected per capita costs, multiplied by the average payment-standardized, non-risk-adjusted cost across all beneficiaries attributed to a TIN during the performance period.

Specialty adjustment. Specialty adjustment accounts for TIN-level differences in specialty mix that can affect medical costs, regardless of the care provided. The Per Capita Costs for All Attributed Beneficiaries measure is specialty-adjusted so that TINs can be compared more fairly with their peers. Specialty-adjusted costs for a TIN with a disproportionate number of specialists with high-cost beneficiaries will be lower than the TIN’s non-specialty-adjusted costs because the specialists with high-cost beneficiaries will generate expected costs that exceed the average cost across all TINs; similarly, specialty-adjusted costs will be higher than non-specialty-adjusted costs for TINs that have a disproportionate number of specialists with low-cost beneficiaries.

Measure construction. CMS implements the following three steps to the Per Capita Costs for All Attributed Beneficiaries measure for each TIN: (1) beneficiary costs are payment standardized, (2) the payment-standardized per capita costs are risk adjusted, and (3) the payment-standardized, risk-adjusted costs are then specialty adjusted.

Below is an outline of the detailed step-by-step descriptions of the risk-adjustment and specialty-adjustment methodologies:

⁶ The CMS-HCC model uses diagnoses identified for a patient within a given year to predict health risks for the following year, along with potential resource utilization.

⁷ The ESRD indicator is taken from the beneficiary enrollment data rather than the CMS-HCC model.

1. Risk adjustment methodology for the payment-standardized Per Capita Costs for All Attributed Beneficiaries.

- a. Replace the top 1 percentile of the distribution of beneficiary costs with the 99th percentile value (referred to as Winsorization) and drop the bottom 1 percentile of the distribution of beneficiary costs.
- b. Determine the TIN's expected payment-standardized per capita cost based on two risk-adjustment algorithms that account for its attributed beneficiaries' age, sex, disability status, CMS hierarchical condition categories (CMS-HCCs)⁸, and end-stage renal disease (ESRD) status.
- c. Compute the ratio of the TIN's actual payment-standardized per capita cost to its expected payment-standardized per capita cost.
- d. Multiply the TIN's actual-to-expected ratio (calculated in step "c)," above) by the average payment-standardized, non-risk-adjusted cost across all beneficiaries attributed to any TIN, in order to convert the ratio into a dollar amount. The result is the TIN's payment-standardized, risk-adjusted per capita cost.

2. Specialty adjustment methodology for the risk-adjusted, payment-standardized Per Capita Costs for All Attributed Beneficiaries.

- a. Compute national specialty-specific expected costs by taking a weighted average of all TINs' payment-standardized and risk-adjusted costs, where the weight for each TIN is calculated as the percent of the TIN's eligible professionals in that specialty, multiplied by the number of the TIN's eligible professionals in that specialty, multiplied by the number of beneficiaries attributed to the TIN.
 - b. Compute specialty-adjusted expected costs for the TIN as the weighted average of the national specialty-specific expected costs, where the weight is the percent of the TIN's Part B payments billed by the specialty.
 - c. Calculate the ratio of the TIN's payment-standardized and risk-adjusted cost to its specialty-adjusted expected cost.
 - d. Multiply the TIN's ratio by the average payment-standardized, non-risk-adjusted cost across all beneficiaries attributed to a TIN in the performance period to obtain the TIN's specialty-adjusted, risk-adjusted, payment-standardized Per Capita Costs for All Attributed Beneficiaries.
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⁸ Table 1 lists the 70 HCCs included in the community CMS-HCC risk-adjustment model used for continuing enrollees. CMS-HCCs are not included in the new enrollee CMS-HCC risk-adjustment model used for new enrollee beneficiaries.

I. For Further Information

- More information on the Value-Based Payment Modifier Program and how the Per Capita Costs for All Attributed Beneficiaries measure is used in calculations of the Value Modifier is located in the Detailed Methodology Document for the 2014 QRURs and 2016 Value Modifier available at: <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/2014-QRUR.html>
- More information on the payment standardization algorithm is available at: <http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228772057350>.⁹

⁹ The CMS document refers to this process as “price standardization” rather than “payment standardization,” but the two terms are equivalent.

J. Tables

Table 1. Hierarchical condition categories included in the CMS-HCC risk-adjustment model

HCC number and brief description of disease/condition	
HCC1 = HIV/AIDS	HCC75 = Coma, Brain Compression/Anoxic Damage
HCC2 = Septicemia/Shock	HCC77 = Respirator Dependence/Tracheostomy Status
HCC5 = Opportunistic Infections	HCC78 = Respiratory Arrest
HCC7 = Metastatic Cancer and Acute Leukemia	HCC79 = Cardio-Respiratory Failure and Shock
HCC8 = Lung, Upper Digestive Tract, and Other Severe Cancers	HCC80 = Congestive Heart Failure
HCC9 = Lymphatic, Head and Neck, Brain, and Other Major Cancers	HCC81 = Acute Myocardial Infarction
HCC10 = Breast, Prostate, Colorectal, and Other Cancers and Tumors	HCC82 = Unstable Angina and Other Acute Ischemic Heart Disease
HCC15 = Diabetes with Renal or Peripheral Circulatory Manifestation	HCC83 = Angina Pectoris/Old Myocardial Infarction
HCC16 = Diabetes with Neurologic or Other Specified Manifestation	HCC92 = Specified Heart Arrhythmias
HCC17 = Diabetes with Acute Complications	HCC95 = Cerebral Hemorrhage
HCC18 = Diabetes with Ophthalmologic or Unspecified Manifestation	HCC96 = Ischemic or Unspecified Stroke
HCC19 = Diabetes without Complication	HCC100 = Hemiplegia/Hemiparesis
HCC21 = Protein-Calorie Malnutrition	HCC101 = Cerebral Palsy and Other Paralytic Syndromes
HCC25 = End-Stage Liver Disease	HCC104 = Vascular Disease with Complications
HCC26 = Cirrhosis of Liver	HCC105 = Vascular Disease
HCC27 = Chronic Hepatitis	HCC107 = Cystic Fibrosis
HCC31 = Intestinal Obstruction/Perforation	HCC108 = Chronic Obstructive Pulmonary Disease
HCC32 = Pancreatic Disease	HCC111 = Aspiration and Specified Bacterial Pneumonias
HCC33 = Inflammatory Bowel Disease	HCC112 = Pneumococcal Pneumonia, Emphysema, Lung Abscess
HCC37 = Bone/Joint/Muscle Infections/Necrosis	HCC119 = Proliferative Diabetic Retinopathy and Vitreous Hemorrhage
HCC38 = Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	HCC130 = Dialysis Status
HCC44 = Severe Hematological Disorders	HCC131 = Renal Failure
HCC45 = Disorders of Immunity	HCC132 = Nephritis
HCC51 = Drug/Alcohol Psychosis	HCC148 = Decubitus Ulcer of Skin
HCC52 = Drug/Alcohol Dependence	HCC149 = Chronic Ulcer of Skin, Except Decubitus
HCC54 = Schizophrenia	HCC150 = Extensive Third-Degree Burns
HCC55 = Major Depressive, Bipolar, and Paranoid Disorders	HCC154 = Severe Head Injury
HCC67 = Quadriplegia, Other Extensive Paralysis	HCC155 = Major Head Injury
HCC68 = Paraplegia	HCC157 = Vertebral Fractures Without Spinal Cord Injury
HCC69 = Spinal Cord Disorders/Injuries	HCC158 = Hip Fracture/Dislocation
HCC70 = Muscular Dystrophy	HCC161 = Traumatic Amputation
HCC71 = Polyneuropathy	HCC164 = Major Complications of Medical Care and Trauma
HCC72 = Multiple Sclerosis	HCC174 = Major Organ Transplant Status
HCC73 = Parkinson's and Huntington's Diseases	HCC176 = Artificial Openings for Feeding or Elimination
HCC74 = Seizure Disorders and Convulsions	HCC177 = Amputation Status, Lower Limb/Amputation Complications

Table 2. Healthcare Common Procedure Coding System (HCPCS) primary care service codes

HCPCS codes	Brief description
99201–99205	New patient, office, or other outpatient visit
99211–99215	Established patient, office, or other outpatient visit
99304–99306	New patient, nursing facility care
99307–99310	Established patient, nursing facility care
99315–99316	Established patient, discharge day management service
99318	Established patient, other nursing facility service
99324–99328	New patient, domiciliary or rest home visit
99334–99337	Established patient, domiciliary or rest home visit
99339–99340	Established patient, physician supervision of patient (patient not present) in home, domiciliary, or rest home
99341–99345	New patient, home visit
99347–99350	Established patient, home visit
G0402	Initial Medicare visit
G0438	Annual wellness visit, initial
G0439	Annual wellness visit, subsequent

Note: Labels are approximate. For more details, see the American Medical Association’s Current Procedural Terminology and the CMS website (http://www.cms.gov/Medicare/Coding/HCPCSReleaseCodeSets/HCPCS_Quarterly_Update.html).