FACT SHEET

APRIL 2015

RISK ADJUSTMENT

Overview

The Value-Based Payment Modifier Program evaluates the performance of solo practitioners and groups of practitioners, as identified by their Taxpayer Identification Number (TIN), on the quality and cost of care they provide to their Fee-for-Service Medicare beneficiaries. The Centers for Medicare & Medicaid Services (CMS) disseminates this information to TINs in confidential Quality and Resource Use Reports (QRURs). For each TIN subject to the Value Modifier, CMS also uses these data to calculate a Value Modifier that adjusts the TIN's physicians' Medicare Physician Fee Schedule payments upward, downward, or not at all, based on the TIN's performance.

When calculating TINs' relative performance on the Per Capita Cost for All Attributed Beneficiaries, Per Capita Costs for Beneficiaries with Specific Conditions, Medicare Spending Per Beneficiary (MSPB), 30-day All-Cause Hospital Readmissions, and Acute and Chronic Ambulatory Care-Sensitive Condition (ACSC) Composite measures, CMS uses risk adjustment to account for differences in beneficiary-level risk factors that can affect quality outcomes or medical costs, regardless of the care provided. The goal of risk adjustment is to enable more accurate comparisons across TINs that treat beneficiaries of varying clinical complexity, by removing differences in health and other risk factors that impact measured outcomes but are not under the TIN's control. This fact sheet summarizes what risk adjustment is and how it is being implemented for the Value-Based Payment Modifier Program. More information on risk adjustment is available in the measure information forms (referenced below) for the measures discussed in this Fact Sheet.

What is risk adjustment?

In the absence of risk adjustment, TINs treating a large number of beneficiaries with multiple chronic conditions could perform worse on certain quality and cost measures than TINs with relatively healthy beneficiaries due, at least in part, to differences in their beneficiary populations. Risk adjustment facilitates more accurate comparisons by accounting for differences in beneficiary case mix across TINs.

For the measures included in the QRURs and Value Modifier calculations, risk adjustment generally involves estimating a TIN's expected performance on a quality or cost measure based on the TIN's beneficiary case mix and then comparing that estimate to the TIN's actual performance.[1] The essential component of these measures is a ratio of actual-to-expected performance, where the expected performance is reflective of the clinical complexity of the

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[1] The exception is the 30-day All-Cause Hospital Readmission measure, which is based on ratios of predicted-to-expected readmissions rather than actual-to-expected readmissions.

TIN's beneficiaries. Focusing attention on whether this ratio is greater or less than one shifts the focus from how the TIN actually performed to how the TIN performed relative to expectations, given the TIN's particular case mix. For example, a TIN treating very sick beneficiaries might have high per capita costs but much lower costs than would have been expected for beneficiaries of comparable risk. On a risk-adjusted basis, this TIN would be considered a strong performer.

Measures included. The following measures are risk adjusted prior to their inclusion in the QRURs and Value Modifier calculations:

- 30-day All-Cause Hospital Readmission measure

- Acute and Chronic ACSC Composite measures

- Per Capita Costs for All Attributed Beneficiaries and Per Capita Costs for Beneficiaries with Specific Conditions measures[2]

- MSPB measure

- Consumer Assessment of Healthcare Providers & Systems (CAHPS) for Physician Quality Reporting System (PQRS) measures

Risk-adjustment process. Risk-adjustment methodologies vary depending on the nature of the measure of interest and the beneficiary-level and TIN-level characteristics that influence performance on the measure. While risk adjustment for most Value Modifier measures entails a comparison of actual performance to expected performance, its implementation differs from measure to measure. Specific approaches to risk adjustment for each measure are outlined briefly below.

- **30-day All-Cause Hospital Readmission measure:** The 30-day All-Cause Hospital Readmission measure calculates the percentage of qualifying hospital admissions that result in unplanned readmissions within 30 days of discharge. Risk adjustment accounts for beneficiary age, beneficiary clinical risk factors, and underlying risk of readmission for the TIN based on the specialty composition of the TIN. Separate models for five specialty cohorts (surgery/gynecology, general medicine, cardiorespiratory, cardiovascular, and neurology) are used to calculate readmissions based on the TIN's predicted performance on readmissions and expected readmissions for each specialty cohort. (Predicted performance on readmissions is the number of readmissions predicted based on the TIN's own performance with its attributed beneficiaries.) For each group, a composite compares the TIN's predicted performance on readmissions to expected readmissions across the five specialty cohorts, weighted by the number of admissions in the specialty cohort. Refer to the 30-day All Cause Hospital Readmission Measure Information Form for more detailed information on this risk-adjustment methodology: http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/ValueBasedPaymentModifier.html.

- **Acute and Chronic ACSC Composite measures:** The Acute and Chronic ACSC Composite measures are calculated from individual components representing distinct conditions for which hospitalization is potentially avoidable with appropriate ambulatory

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[2] The four condition-specific per capita cost measures include the costs of beneficiaries with diabetes, chronic obstructive pulmonary disease, coronary artery disease, and heart failure.

care.[3] The individual components are risk adjusted for the age and sex of beneficiaries by comparing a TIN's actual rate of potentially avoidable hospitalizations for the given condition with the expected rate based on the age and sex distribution of the TIN's attributed beneficiaries and the experience of TINs nationwide with a similar beneficiary case mix. The risk-adjusted composite measures are weighted averages of the risk-adjusted individual components. Refer to the ACSC Measure Information Form for more detailed information on this risk-adjustment methodology: http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/ValueBasedPaymentModifier.html.

- **Per Capita Costs for All Attributed Beneficiaries and Per Capita Costs for Beneficiaries with Specific Conditions measures:** The per capita cost measures include all Medicare Part A and Part B costs for beneficiaries attributed to a TIN divided by the number of attributed beneficiaries. Expected per capita costs are calculated in two steps. First, a CMS Hierarchical Condition Categories (CMS-HCC) model generates a risk score for each beneficiary that summarizes each beneficiary's expected cost of care relative to other beneficiaries.[4] Separate CMS-HCC models exist for new enrollees and continuing enrollees. The new enrollee model accounts for each beneficiary's age, sex, and disability status and is used when a beneficiary has less than 12 months of medical history. The community model accounts for each beneficiary's age, sex, original reason for Medicare entitlement (age or disability), Medicaid enrollment, and clinical conditions as measured by HCCs.[5] In the second step, expected beneficiary costs are calculated adjusting for outliers based on the beneficiary's risk score and whether the beneficiary has end-stage renal disease (ESRD). The risk-adjusted measure compares the TIN's actual per capita costs with its expected per capita costs. Refer to the Per Capita Costs for All Attributed Beneficiaries Measure Information Form for more detailed information on this risk-adjustment methodology: http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/ValueBasedPaymentModifier.html.

- **MSPB measure:** The MSPB measure, which assesses total Part A and Part B costs immediately prior to, during, and for 30 days following a qualifying hospital stay, is risk adjusted by accounting for the age and severity of illness of beneficiaries. Severity of illness is measured using 70 HCC indicators derived from the beneficiary's claims during the 90 days before the start of the episode of care, recent long-term care status, ESRD status, and the Medicare severity diagnosis-related group (MS-DRG) code of the hospital admission. Expected episode spending is calculated through a statistical model based on beneficiary's age and severity of illness, using a separate model for episodes within each MS-DRG. The risk-adjusted measure serves as a comparison of a TIN's average standardized episode spending to its expected spending.

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[3] The Acute ACSC Composite measure components are bacterial pneumonia, dehydration, and urinary tract infection. The Chronic ACSC Composite measure components are diabetes, chronic obstructive pulmonary disease/asthma, and heart failure.

[4] A risk score of 1.0 corresponds to average expected expenditure; higher risk scores are associated with higher expected expenditures.

[5] Table 1 lists the 70 HCCs included in the community CMS-HCC risk-adjustment model used for continuing beneficiaries.

Measures not risk adjusted. Other measures included in the QRURs and the calculation of the Value Modifier are not risk adjusted. Specifically, measures reported via PQRS are presented and incorporated in payment-adjustment calculations in unadjusted form. Many of these measures are quality process measures for which the measure outcome is not subject to influence by factors outside the TIN's control.

Table 1. HCCs 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