

Medicare Managed Care Manual

Chapter 7 – Risk Adjustment

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10 - Introduction

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

This manual chapter addresses the policies and operations related to the data collection for, calculation of, and use of risk scores in Part C and Part D payments through 2011. For detailed information on payment policies and formulas, refer to Chapter 8 for Part C payment (a chapter for Part D payment is forthcoming). CMS risk adjusts Part C payments made to Medicare Advantage (MA) plans and Program of All Inclusive Care for The Elderly (PACE) organizations, and Part D payments made to Part D sponsors, including Medicare Advantage-Prescription Drug plans (MA-PDs) and standalone Prescription Drug Plans (PDPs).

20 - Purpose of Risk Adjustment

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

Risk adjustment allows CMS to pay plans for the risk of the beneficiaries they enroll, instead of an average amount for Medicare beneficiaries. By risk adjusting plan payments, CMS is able to make appropriate and accurate payments for enrollees with differences in expected costs. Risk adjustment is used to adjust bidding and payment based on the health status and demographic characteristics of an enrollee. Risk scores measure individual beneficiaries' relative risk and risk scores are used to adjust payments for each beneficiary's expected expenditures. By risk adjusting plan bids, CMS is able to use standardized bids as base payments to plans.

30 - Statutory and Regulatory Authority for Risk Adjustment

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

The Medicare Advantage (MA) program provides Parts A and B services under Part C of Title XVIII of the Social Security Act ("the Act"). CMS administers risk adjusted payments to MA organizations in accordance with Subpart G of 42 CFR §422.304. This regulatory provision is based on sections 1853, 1854, and 1858 of the Act. CMS risk adjusts Part C payments made to MA plans under Section 1853(a) (3) of the Act; these rules are codified at 42 CFR 422.310. CMS risk adjusts payments to PACE organizations under 1894(d) (2).

MA plans include MA-only plans, MA-PD plans, regional plans, employer group health plans, and Special Needs Plans (SNPs). CMS risk adjusts certain demonstration plan payments, such as the Part C payments made to the dual demonstration plans (Wisconsin Partnership Program, MassHealth Senior Care Options, and Minnesota Senior Health Options and Minnesota Disability Health Options), and Social Health Maintenance Organizations (SHMOs).

CMS risk adjusts Part D payments to Medicare Advantage Prescription Drugs plans (MA-PDs), standalone Prescription Drug Plans (PDPs), and PACE organizations under 1860(d); these rules are codified at 42 CFR 423.

40 - Role and Responsibilities of Plan Sponsors

(Rev. 118; Effective: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010); Implementation: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010))

MA organizations, PACE organizations, 1876 Cost HMOs/Competitive Medical Plans (CMPs), and starting in 2012, Health Care Prepayment Plans (HCPPs) like the United Mine Workers of America Health and Retirement Funds, must submit risk adjustment data, as required by CMS.

This section provides a high-level checklist of plan requirements. Detailed information about risk adjustment data collection, submission, reporting, and validation are outlined in later sections within this chapter.

Risk Adjustment Data Submission Requirements – Plan Sponsors (Medicare Advantage Organizations (MAOs), PACE organizations, and 1876 Cost HMO/CMPs) must:

- Ensure the accuracy and integrity of risk adjustment data submitted to CMS. All diagnosis codes submitted must be documented in the medical record and must be documented as a result of a face-to-face visit. The diagnosis must be coded according to *International Classification of Diseases, (ICD) Clinical Modification Guidelines for Coding and Reporting*.
- Implement procedures to ensure that diagnoses are from acceptable data sources. The only acceptable data sources are hospital inpatient facilities, hospital outpatient facilities, and physicians. Plan sponsors are responsible for determining provider type based on the source of the data.
- Submit the required data elements from acceptable data sources according to the coding guidelines.
- Submit all required diagnosis codes for each beneficiary and submit unique diagnoses at least once during the risk adjustment data-reporting period. Submitters must filter diagnosis data to eliminate the submission of duplicate diagnosis clusters.
 - For Part B-only beneficiaries enrolled in a plan, the plan sponsor must submit diagnosis codes under the same rules as for a beneficiary with both Parts A and B. The plan should also submit *diagnosis* codes for Part A services provided under a non-Medicare contract.

If upon conducting an internal review of submitted diagnosis codes, the plan sponsor determines that any diagnosis codes that have been submitted do not meet risk adjustment submission requirements, the plan sponsor is responsible for deleting the submitted diagnosis codes as soon as possible.

- Receive and reconcile CMS Risk Adjustment Reports in a timely manner. Plan sponsors must track their submission and deletion of diagnosis codes on an ongoing basis.
- Once CMS calculates the final risk scores for a payment year, plan sponsors may request a recalculation of payment upon discovering the submission of inaccurate diagnosis codes that CMS used to calculate a final risk score for a previous payment year and that

had an impact on the final payment. Plan sponsors must inform CMS immediately upon such a finding.

50 - History of Risk Adjustment

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

The Balanced Budget Act of 1997 (BBA) mandated that a risk adjustment payment methodology, incorporating information on beneficiaries' health status, be implemented in the Medicare+Choice (M+C) program (now the Medicare Advantage program) no later than January 2000. Under the BBA, risk adjustment of M+C payments was initially to be based only on data from enrollees' inpatient hospital stays, with later implementation of risk adjustment based on data from additional sites of care. CMS selected the Principal Inpatient Diagnostic Cost Group (PIP-DCG) model as the risk adjustment method to be implemented in 2000. This model recognizes diagnoses for which inpatient care is most frequently appropriate and which are predictive of higher future costs.

To assist managed care organizations, CMS provided for a gradual phase-in of risk adjusted payment, initially adjusting only a portion of the total payment based on the PIP-DCG methodology - and later the CMS Hierarchical Condition Category (HCC) methodology - with the remainder still adjusted under the pre-BBA method based only on demographic information. This phase in was intended to provide more stable payments to M+C organizations.

The phase in schedule was as follows:

Payment year	MA plans	Evercare*	SHMO*	PACE and dual demonstrations*
2000-2003	10% risk/90% demographic	100% demographic	100% demographic	100% demographic
2004	30% risk/70% demographic			10% risk/90% demographic
2005	50% risk/50% demographic		30% risk/70% demographic	
2006	75% risk/25% demographic		50% risk/50% demographic	
2007	100% risk/0% demographic		75% risk/25% demographic	
2008 and later			100% risk/0% demographic	

*Note: For MA plans (formerly M+C plans), the demographic-only portion of the payment was adjusted for age, gender, Medicaid eligibility, institutional status, and working aged status. For certain demonstrations, the non-risk portion of the payment may have involved a demonstration-specific payment methodology.

ESRD risk adjustment was implemented at 100% in 2005. Part D risk adjustment was implemented at 100% in 2006.

The Benefits Improvement and Protection Act of 2000 (BIPA) required the implementation of a risk adjustment model using not only diagnoses from inpatient hospital stays, but also from ambulatory settings beginning in 2004. The draft CMS-HCC risk adjustment payment model was released on March 29, 2002. The CMS-HCC risk adjustment payment model incorporates disease groups that have a significant impact on Part C expenditures. Submission of ambulatory risk adjustment data (physician and hospital outpatient) began on October 1, 2002 for dates of service beginning July 1, 2002. On March 28, 2003, CMS announced the proposed final version of the CMS-HCC risk adjustment model for use in payment beginning in January 2004.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) was enacted in December 2003, extending prescription drug coverage to Medicare enrollees. With the passage of the MMA, "Medicare+Choice" plans became known as Medicare Advantage (MA) plans. In 2006, the MMA made it possible for Medicare Advantage plans to offer Part D coverage to beneficiaries in addition to coverage comparable to Part A and Part B. The MMA also established a bidding methodology for MA organizations and drug plans in 2006. With the enactment of the MMA, risk adjustment was also established for the Part D program.

60 - Annual Schedule

(Rev. 114, Issued; 06-07-13, Effective: 06-07-13, Implementation: 06-07-13)

Table 1 provides key dates associated with risk adjustment, and provides an illustration of the data collection periods and related payment months. The most current dates can be found in the annual combined Call Letter posted on the CMS Web site at, <http://www.cms.gov/MedicareAdvgtgSpecRateStats/AD/list.asp#TopOfPage>.

Key Payment dates are:

Mid-February: 45 days prior to the release of the Rate Announcement, CMS releases the Advance Notice of Methodological Change for the following payment year.

First Monday in April: CMS releases the Rate Announcement for the following payment year.

First Monday in June: Plan bids are due.

Table 1. Risk Adjustment Payment Timeline for 2011 Payments

	2009						2010						2011						2012												
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan
Initial Payment																															
Dates of Service	Dates of service for 2011 Initial risk scores																														
Submission Deadline																			X												
Payment Months																			Prospective payments												
Midyear Payment																															
Dates of Service													Dates of service for 2011 Midyear risk scores																		
Submission Deadline																			X												
Payment Months																			Retroactive adjustments						Prospective payments						
Final Payment																															
Dates of Service													Dates of service for 2011 Final risk scores																		
Submission Deadline																														X	
Payment Months																			Retroactive adjustments												
Submission Deadlines: (X)																															
Initial: First Friday in September 2010																															
Midyear: First Friday in March 2011																															
Final: January 31, 2012																															

70 - Risk Adjustment Models - Overview

(Rev. 114, Issued; 06-07-13, Effective: 06-07-13, Implementation: 06-07-13)

The CMS-HCC risk adjustment models are used to calculate risk scores, which predict individual beneficiaries' health care expenditures, relative to the average beneficiary. Risk scores are used to adjust payments and bids based on the health status (diagnostic data) and demographic characteristics (such as age and gender) of an enrollee. Both the Medicare Advantage and Prescription Drug programs include risk adjustment as a component of the bidding and payment processes. CMS uses risk adjustment to:

- Standardize bids so that each plan has a bid for the average Medicare beneficiary
- Compare bids based on populations with different health statuses and other characteristics
- Adjust plan payment based on the characteristics of the enrolled population

CMS has developed separate risk adjustment models for the Parts A and B benefits offered by plans under Part C and for the Part D benefits offered by prescription drug plans. Within each benefit, CMS also developed segments of the models for subpopulations with distinct cost patterns.

The Part C model has segments for the following subpopulations of beneficiaries:

- Aged/disabled Community
- Aged/disabled Institutional
- Aged/disabled New enrollee
- ESRD Dialysis
- ESRD Dialysis New Enrollee
- ESRD Transplant
- ESRD Functioning Graft – Community
 - Add-on for 4-9 months
 - Add-on for 10+ months
- ESRD Functioning Graft – Institutional
 - Add-on for 4-9 months
 - Add-on for 10+ months
- ESRD Functioning Graft – New Enrollee
 - Add-on for 4-9 months
 - Add-on for 10+ months

From 2006 through 2010, the Part D model uses a base model with multipliers for:

- Low Income (partial)
- Low Income (full)
- Long Term Institutional (aged)
- Long Term Institutional (disabled)

Starting in 2011, the Part D model has the following segments:

- Aged, non-low income
- Aged, low income
- Disabled, non-low income
- Disabled, low income
- Institutional
- New Enrollee, non-low income
- New Enrollee, low income
- New Enrollee, institutional

Table 2 below summarizes the common characteristics across all HCC-based risk adjustment models.

Table 2. HCC Specific Characteristics

Characteristic	Descriptions
Selected Significant Disease (SSD) Model	Model considers serious manifestations of a condition rather than all levels of severity of a condition. Include most body systems and conditions.
Models are Additive	Individual risk scores are calculated by adding the coefficients associated with each beneficiary's demographic and disease factors.
Prospective Model	Uses diagnostic information from a base year to predict Medicare benefit costs for the following year.
Site Neutral	Models do not distinguish payment based on a site of care.
Diagnostic Sources	Models recognize diagnoses from hospital inpatient, hospital outpatient, and physician settings.
Multiple Chronic Diseases Considered	Risk adjusted payment is based on assignment of diagnoses to disease groups, also known as Condition Categories (CCs). Model is most heavily influenced by Medicare costs associated with chronic disease.
Hierarchies	Condition Categories are placed into hierarchies, reflecting severity and cost dominance. Beneficiaries get credit for the disease with the highest severity or that subsumes the costs of other diseases. Hierarchies allow for payment based on the most serious conditions when less serious conditions also exist.
Disease and Disabled Interactions	Interactions allow for higher risk scores for certain conditions when the presence of another disease or demographic status, e.g., disabled status, is indicative of higher costs. Disease interactions are additive factors and

	increase payment accuracy.
Demographic Variables	Models include five demographic factors: age, sex, disabled status, original reason for entitlement, Medicaid or low income status. These factors are typically measured as of the data collection period.

70.1 - Calibration of the CMS-HCC Risk Adjustment Models

(Rev. 118; Effective: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010); Implementation: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010))

The CMS-HCC risk adjustment model is used to adjust payments for Part C benefits offered by MA plans and PACE organizations to aged/disabled beneficiaries. The CMS-HCC model includes both diseases and demographic factors. There are separate sets of coefficients for beneficiaries in the community, beneficiaries in long term care institutions, and new enrollees. The CMS-HCC model was first used for payment in 2004 and has been recalibrated two times since then (2007 and 2009).

When CMS recalibrates the CMS-HCC risk adjustment model, it uses data from fee-for-service (FFS) claims, using one year's diagnoses to predict the following year's expenditures. When developing the model, CMS consulted with a panel of outside clinicians to review the *diagnosis* codes in order to group them with other clinically similar *diagnosis* codes. These diagnosis groupings were then mapped to condition categories based on similar clinical characteristics and severity, and cost implications. Both the panel of clinicians and analyses of cost data informed the creation of condition categories.

Coefficients for condition categories were estimated by regressing the total expenditure for Medicare Parts A and B benefits for each beneficiary onto their demographic factors and condition categories, as indicated by their diagnoses. Resulting dollar coefficients represent the marginal (additional) cost of the condition or demographic factor (e.g., age/sex group, Medicaid status, disability status).

While all *diagnosis* codes are mapped to a condition category, not all condition categories are included in the model used in payment. The decision to include a condition category in the model is based on each category's ability to predict costs for Medicare Parts A and B benefits. Condition categories that don't predict costs well – because the coefficient is small, the t-value is low, the number of beneficiaries with a certain condition is small so the coefficient is unstable, or the condition does not have well specified diagnostic coding – are not included in the model.

In a final step, hierarchies were imposed on the condition categories, assuring that more advanced and costly forms of a condition are reflected in the risk score.

In order to use the risk adjustment model to calculate risk scores for payment, CMS creates a relative factor for each demographic factor and HCC in the model. CMS does

this by dividing all the dollar coefficients by the average per capita predicted expenditure for a specific year (i.e., the “denominator year”). See Table 3 below for a list of data years and denominator years in each version of the risk adjustment model. The relative factors are used to calculate risk scores for individual beneficiaries, which will average 1.0 in the denominator year for the FFS population.

Each time the risk adjustment model is recalibrated, the relative factors can change. Changes in the dollar coefficients resulting from the regression – the marginal cost attributable to an HCC – can change relative to the average cost. For example, the coefficient for diabetes can increase, reflecting higher costs for the disease; but if the average cost for Medicare beneficiaries has increased even more than for diabetes, then the relative cost of diabetes will decrease. This decrease in relative cost will be reflected in a decrease in the relative factor, even though the costs associated with diabetes have increased.

Although recalibrated models retain an average 1.0 risk score, individual beneficiaries’ risk scores may change, as may plan average risk scores, depending on each individual beneficiaries’ combination of diagnoses.

Table 3. Data Years and Denominator Years

Payment Years	Diagnoses Year	Costs Year	Denominator Year
2004, 2005, 2006	1999	2000	2000
2007, 2008	2002	2003	2005
2009, 2010, 2011	2004	2005	2007

70.2 - CMS-HCC Risk Adjustment Model

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

The CMS-HCC risk adjustment model is used to calculate risk scores for aged/disabled beneficiaries and is used in bidding and payment for Part A and B benefits, under the Part C program. In this section, CMS will discuss in detail the specific characteristics of the CMS-HCC risk adjustment model.

70.2.1 - Community, Institutional, and New Enrollee Segments

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

MA uses separate models for aged/disabled (non-ESRD) community and long-term institutional residents. CMS created the separate models because there are significant cost differences between the community-based Medicare beneficiaries and the long-term institutionalized beneficiaries with the same disease profile. Adjusting payment for place of residence improves payment accuracy.

Long-term institutionalized MA enrollees are individuals residing in an institution for more than 90 days as identified using 90-day assessments in the Minimum Data Set

(MDS). Short term institutionalized MA beneficiaries are included in the community population.

During the payment year, CMS assigns a new enrollee factor to any beneficiary who does not have 12 months of diagnoses to support a risk score. Operationally, CMS identifies new enrollees as those beneficiaries with less than 12 months of Medicare Part B entitlement during the data collection year.

Part A only enrollees are defined as beneficiaries with 12 months of entitlement to benefits under Part A and less than 12 months of Part B enrollment during the data collection period and are treated as new enrollees, unless the enrolling organization elects to have them treated as a full risk enrollee.

Starting in payment year 2006, organizations may elect to have CMS determine payments for all “Part A-only” enrollees using either new enrollee factors or full risk adjustment factors. The organization’s decision is applied to **all** “Part A-only” enrollees in the plan. Plans may not elect to move some eligible “Part A-only” enrollees into risk adjustment, while retaining others as new enrollees.

- If an organization elects the option, it remains turned "on" until CMS is notified otherwise. Notification must occur prior to August 31st of any successive year.
- CMS will apply the option only during final reconciliation for a payment year, and not prospectively.
- Plans interested in the option must contact CMS at Andrew.Keenan@cms.hhs.gov by August 31st prior to each payment year to elect the option.

Table 4 provides information on which risk adjustment factor applies to payment.

Table 4. Which Risk Adjustment Factor Applies to Payment*

Time Period Beneficiary Has Been Enrolled in Part B Medicare**	Time Period Beneficiary Has Been Entitled to Benefits Under Part A Medicare**	
	0 - 11 months	≥ 12 months
0 – 11 months	new enrollee factors	Plan’s option: new enrollee or full risk adjustment factors
≥ 12 months	full risk adjustment factors	full risk adjustment factors

*Applies to Part C and D payments for MA plans, demonstrations, and PACE organizations. Note that Medicare beneficiaries must be entitled to benefits under Part A and enrolled in Part B to enroll in an MA plan.

**During data collection period. The data collection year is a lagged year for initial risk scores and is the previous calendar year for mid-year and final risk scores.

70.2.2 - Risk Score for Long Term Institutionalized Beneficiaries (Rev. 114, Issued; 06-07-13, Effective: 06-07-13, Implementation: 06-07-13)

The Part C risk adjustment model applies a beneficiary's institutional risk score to payment in those payment months when the enrollee has long term institutional (LTI) status. Unlike most factors in CMS-HCC risk adjustment models, which are recognized in the year prior to the payment year, institutional status is recognized in the payment year itself; this concurrent approach more accurately reflects treatment patterns upon which costs are based.

To determine a beneficiary's LTI status for payment purposes, CMS uses the reporting of a 90-day assessment. This information is collected routinely from nursing homes, which report to the States and CMS on at least a quarterly basis. This data is stored in the Minimum Data Set (MDS). Payment at the long-term rate starts in the month following the assessment date. Once persons are identified, they remain in long-term status until discharged to the community for more than fourteen days. The costs of the short term institutionalized (less than 90 days) are recognized in the community model.

Note that the institutional marker used for demographic payments is used differently from the institutionalized marker that is used in the CMS-HCC risk adjustment model. The institutional marker that was used in demographic payments increased payments over a demographic base and had the effect of capturing the higher costs of older and sicker people who go into skilled or unskilled levels of care. In the risk adjustment model, the health status markers capture most of these characteristics.

Because CMS calculates initial and mid-year risk scores before it has complete data on beneficiaries' LTI status in the payment year, CMS uses the presence of a 90-day assessment reported for any one month during the 12-month data collection period as a proxy for LTI in the payment year. At the final payment reconciliation that takes place post-contract year, CMS uses each beneficiary's actual month-by-month LTI status in the payment year to determine which risk score or multiplier to apply.

CMS turns on the LTI flag and applies an institutional risk score for initial payments starting January of the payment year when a beneficiary has had a 90-day assessment reported for any one month during July - June prior to the payment year (e.g., July 2008 through June 2009 for 2010 – this is the data collection period for initial payments). CMS would apply this same score until it calculates the mid-year risk scores, at which time CMS will update the LTI flag and institutional risk score if the person had a 90-day assessment reported for any one month during data collection year (e.g., 2009 for 2010 payment year) for mid-year updates. (Mid-year scores take effect in July, and remain in effect through the end of the contract year.)

Membership Monthly Report (MMR) fields specific to LTI status.

1. Part C LTI FLAG (field 20; position 67) - This flag means that the beneficiary has been institutionalized for at least 90 days as of the payment month. CMS will turn on LTI for risk adjustment when a beneficiary has a reported 90-day assessment. It continues to be populated until the beneficiary has a more than 14-day absence from the facility.
2. RA Factor Type Code (field 47; positions 189-90) – A value of "I" means that the enrollee has been institutionalized 90+ days as of the payment month.

70.2.3 - Demographic Factors in the CMS-HCC Model
(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

The CMS-HCC model is a combination of demographic and disease-based factors.

The demographic variables include:

- **Age** as of February 1st of the payment year.
- **Sex** of the beneficiary.
- **Disabled Status** results in the inclusion of additional factors in the risk scores of community residents who are disabled beneficiaries under 65 years old.
- **Original Reason for Entitlement** results in the inclusion of a factor in the risk score for beneficiaries 65 years of age or older who were originally entitled to Medicare due to disability; the factor differs by the age and sex of the beneficiary.
- **Medicaid Eligibility** results in the inclusion of an additional factor in the risk score.

70.2.4 - Original Reason for Entitlement Code (OREC)
(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

In CMS’ calculation of the MA payment, CMS includes an additional factor in the risk score based on the original reason the beneficiary became eligible for Medicare. Table 5 outlines the application of the factor based on original reason for entitlement. The Monthly Membership Report reflects the OREC identified in MARx.

Table 5. Original Reason for Entitlement Codes and Descriptions

OREC	Description	Factor Application
0	Beneficiary insured due to age	CMS applies no additional factor.
1	Beneficiary insured due to disability	CMS applies the same factor for OREC 1 and 3.

2	Beneficiary insured due to ESRD	CMS applies no additional factor under the CMS-HCC model.
3	Beneficiary insured due to disability and current ESRD	CMS applies the same factor for OREC 1 and 3.

Example (example uses the CMS-HCC risk adjustment model used in payment for years 2009 through 2011):

- An 83 year old man who originally became entitled to Medicare as disabled is diagnosed with pneumococcal pneumonia (ICD-9 code 481, HCC112).
- Originally insured due to disability, OREC = 1
- Originally disabled, male = 0.168
Pneumococcal Pneumonia, Emphysema, Lung Abscess, HCC112 = 0.249
- Risk Score = (demographics) + 0.168+0.249

Example (example uses the CMS-HCC ESRD dialysis risk adjustment model used in payment for years 2008 through 2011):

- A 72 year old man who became had originally been entitled to Medicare as disabled is diagnosed with End-Stage Renal Disease (ESRD) with renal dialysis status (ICD-9 code V451, HCC130).
- Originally insured due to disability with current ESRD, OREC = 3
- Male, originally entitled due to disability (non-ESRD) = 0.032
Renal Dialysis Status, V451, HCC130 = 0.0000
- Risk Score = (demographics) + 0.032+0.000

70.2.5 - Medicaid

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

The CMS-HCC and ESRD risk adjustment models include a Medicaid factor. If a beneficiary has Medicaid status in the appropriate time period, the relative factor associated with Medicaid is included in the calculation of the beneficiary risk score. Medicaid is defined as being eligible for Title XIX under an approved Medicaid State Plan, including eligibility for full Medicaid benefits as well as those who are eligible only under one of the Medicare Savings Program categories, e.g., Qualified Medicare Beneficiary (QMB), Specified Low-Income Medicare Beneficiary (SLMB).

Full risk beneficiaries:

The Medicaid factor is included in the risk score when CMS has data indicating that the beneficiary is Medicaid eligible for one month or more in the data collection year. For example, when calculating final 2009 risk scores, the beneficiary will have Medicaid included in their risk score if they were eligible for Medicaid at least one month in 2008. (Note: When calculating initial and mid-year risk scores, CMS may look to early time periods to determine whether or not to assign Medicaid status in the risk score.)

New enrollees:

For individuals with less than 12 months of Part B enrollment in the data collection period the Medicaid factor is included in the calculation of the risk score when the beneficiary is Medicaid for one or more months in the payment year. For example, when calculating final 2009 risk scores, the beneficiary will have Medicaid included in their risk score if they were eligible for Medicaid at least one month in 2009.

In order to appropriately assign Medicaid status to beneficiaries, CMS obtains data on Medicaid eligibility from several sources. For payment year 2008 and later, the following data sources are used:

1. MMA Medicare/Medicaid Dual Eligible monthly file (MMA State files): These files provide monthly identification of each actively enrolled Medicare/Medicaid dual eligible beneficiary, including a person-month record for each Medicare/Medicaid dual eligible in a State Medicaid program in the reporting month. The MMA State files also report information on changes in the circumstances for individuals in a prior month. The files include those eligible for comprehensive Medicaid benefits (whether eligible through the state plan or a section 1115 demonstration), as well as those for whom the State pays Medicare premiums and/or cost sharing (Qualified Medicare Beneficiaries, Specified Low-Income Medicare Beneficiaries, and Qualifying Individuals). CMS also uses this data to identify low income beneficiaries under Part D.
2. Puerto Rico monthly submission file: CMS has arranged with Puerto Rico to submit files similar to the MMA State files for beneficiaries who are Medicaid eligible in Puerto Rico.
3. Point-of-Sale data: Submitted to assist pharmacies in identifying low income beneficiaries under Part D.
4. Plan-reported Medicaid status: Plans can report retroactive Medicaid status via the Retro Processing Contractor (RPC). The RPC requires documentation of Medicaid eligibility and confirmation that the beneficiary is not already in CMS data systems prior to updating the beneficiary record based on plan submissions. Please note that plan-reported Medicaid status must be posted to the CMS data systems in time for risk score calculation runs. For more information on plan-reported updates of Medicaid status, including timing and documentation needs, please refer to the Standard Operation Procedure (SOP) for the RPC.

CMS changed the sources used to identify beneficiaries as Medicaid with the 2008 payment year. Table 6 below shows the data sources used by payment year:

Table 6. Data sources for identifying the Medicaid eligibility of Medicare beneficiaries:

	Payment year 2007 and earlier years	Payment year 2008	Payment year 2009 and later years
New enrollees	<ol style="list-style-type: none"> 1. Third Party Buy-In file 2. Plan-reported Medicaid <ul style="list-style-type: none"> • Batch “01” transactions • Retroactive updates through the Retro Processing Contractor (RPC) 	<ol style="list-style-type: none"> 1. MMA State files 2. Plan-reported <ul style="list-style-type: none"> • Retroactive updates through the RPC 	<ol style="list-style-type: none"> 1. MMA State files 2. Plan-reported <ul style="list-style-type: none"> • Retroactive updates through the RPC
Full risk enrollees		<ol style="list-style-type: none"> 1. MMA State files 2. Third Party Buy-In file 3. Plan-reported Medicaid <ul style="list-style-type: none"> • Batch “01” transactions • Retroactive updates through the RPC 	

Notes: CMS considers full risk Medicare beneficiaries as dually-eligible if they were eligible for Title XIX during any month in the year prior to the payment year. Full risk Medicare beneficiaries have 12 months of Part B enrollment in the year prior to the payment year. CMS assigns Medicaid status for new enrollees on a concurrent basis, i.e., if a newly-enrolled Medicare beneficiary is eligible for Title XIX during any month during the payment year, they are considered Medicaid for that year.

Checking Medicaid status used in payment:

While plans are permitted to submit Medicaid status for their enrollees who are not otherwise reported as Medicaid, plans first must conduct analyses of the available data from CMS to confirm that CMS does not already have Medicaid status reported for the beneficiary.

Table 7 below illustrates how to use the MMR to determine Medicaid status. For a description of fields 19, 21, 23, and 47, please see the latest version of the Monthly Membership Report.

Table 7. Using the MMR to identify Medicaid status

<p>If the enrollee is a “full risk” enrollee, i.e., has 12 months of Part B in the data collection period</p>	<p>Field 47 (RA Factor Type code) = C, C1, C2, D, G1, G2, I, I1, or I2 and Field 23 (Default Risk Factor code) = blank</p>
<p>Medicaid is used in calculating the risk score if enrollee was Medicaid for at least one month in the data collection period</p>	<p>Field 19 = blank</p> <p>Use Field 21 to determine Medicaid status –</p> <p>Field 21 = Y</p> <p>Indicates that Medicaid status was used in calculating the risk score, i.e., at least a one month period of Medicaid eligibility during the data collection period was established in CMS systems at the time that risk scores were calculated.</p> <p>Field 21 = blank,</p> <p>Indicates that no Medicaid period of eligibility was established in CMS systems during the data collection period.</p>
<p>If the enrollee is a “new enrollee,” i.e., does not have 12 months of Part B in the data collection period –</p> <p>And they were present in the Medicare Beneficiary Database at the time that the Risk Adjustment System (RAS) pulled data for calculating risk scores...</p> <p>A “new enrollee” risk score will be assigned in RAS.</p>	<p>Field 47 (RA Factor Type code) = E, ED, E1, or E2 and Field 23 (Default Risk Factor code) = blank</p>
<p>Medicaid is used in assigning the new enrollee risk score if the enrollee was Medicaid for at least one month in the payment year.</p>	<p>Field 19 = blank</p> <p>Use Field 21 to determine Medicaid status –</p> <p>Field 21 = Y</p> <p>Indicates that Medicaid status was used in assigning the new enrollee risk score, i.e., at least a one month period of Medicaid eligibility during the payment year was established in CMS systems at the time that the risk score was assigned.</p> <p>Field 21 = blank</p>

	<p>Indicates that no Medicaid period of eligibility was established in CMS systems during the payment year.</p> <p>Note: The application of Medicaid status based on Medicaid periods during the payment year will happen at final payment reconciliation (conducted in the year following the payment year). New enrollees who are assigned a RAS risk score during the initial risk score run are assigned Medicaid status if they are Medicaid for at least one month during the lagged data collection period (July-June prior to the payment year) or during any one month after June, but prior to the risk score run. New enrollees who are assigned a RAS risk score during the mid-year risk score run are assigned Medicaid status if they are Medicaid for at least one month during the year prior to the payment year or any one month during the payment year. At final payment reconciliation, Medicaid status will be applied to the final risk score if there is a Medicaid period of at least one month during the payment year.</p>
<p>If the enrollee does not have a RAS-generated risk score, either because –</p> <ul style="list-style-type: none"> o the enrollee was <u>not</u> present in the Medicare Beneficiary Database at the time that RAS pulled data for calculating risk scores, i.e., they were neither entitled to Part A nor enrolled in Part B at the time of the risk score run, or o the enrollee has RAS factors for community and institutional, but has a newly-reported ESRD status (RAS did not know to generate a CMS-HCC ESRD risk score for the beneficiary) – <p>The payment system will not have the appropriate risk score passed to it from RAS for these beneficiaries; the payment system will assign the appropriate default risk score in these cases (aged/disabled, ESRD).</p>	<p>Field 23 is populated with 1, 2, 3, 4, 5, 6, or blank depending on type of default score used (see the PCUG for more information about the MMR file layout).</p> <p>Prior to 2009:</p> <p>Field 47 (RA Factor Type code) = blank</p> <p>and</p> <p>Field 23 (Default Risk Factor code) = Y (indicates that a default risk score was assigned by the payment system)</p> <p>Note: Default risk scores may be needed throughout the payment year, since RAS may not be able to generate the appropriate risk scores during the initial and mid-year risk score runs. At final payment reconciliation (conducted in the year following the payment year), all beneficiaries enrolled during the payment year – both full risk and new enrollees - will receive RAS-generated risk scores, i.e., no default risk scores are assigned at final payment reconciliation.</p>
<p>Medicaid is used in assigning the default risk score if the enrollee was Medicaid for at least one month in the payment year.</p>	<p>Field 21 = blank</p> <p>Use Field 19 to determine Medicaid status –</p> <p>Field 19 = Y</p>

	<p>Indicates that Medicaid status was used in assigning the new enrollee risk score, i.e., at least a one month period of Medicaid eligibility during the payment year was established in CMS payment system at the time that the default risk score was assigned.</p> <p>Field 19 = N</p> <p>Indicates that no Medicaid period of eligibility was established in CMS systems during the payment year.</p> <p>Note: For default risk scores assigned to beneficiaries at the beginning of a payment year, the payment system assigns default risk scores using Medicaid if the beneficiary has Medicaid for at least one month in the year previous to the payment year (since payment-year Medicaid status is unknown). During the payment year, the payment system checks quarterly for updates to the Medicaid status of default beneficiaries and adjusts their Medicaid status according to the rules for default enrollees.</p>
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Notes: The data collection period is the 12 month period from which CMS uses diagnoses when calculating risk scores. For mid-year and final risk scores, the data collection period is the calendar year prior to the payment year (2007 for 2008 payment year). For initial risk scores (those used for prospective payments from January – June in a payment year), the data collection period is the July (two years prior) – June (in the year prior to payment year). For example, for 2010 initial risk scores, CMS used July 1, 2008 – June 30, 2009 for the data collection period.

70.2.6 - Disease Hierarchy

(Rev.114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

Disease hierarchies address situations when multiple levels of severity for a disease, with varying levels of associated costs, have been reported for a beneficiary. The hierarchies prioritize the inclusion in a risk score of multiple HCCs where diagnoses are clinically related and ranked by costs. In the case of a disease hierarchy, Part C payment is based only on the most severe and costly manifestation of the disease. Hierarchies are published in the Rate Announcement for the years when CMS recalibrated the CMS-HCC model.

The following example demonstrates how the hierarchy logic is applied in the CMS-HCC risk adjustment model used for payment. :

An individual residing in the community with diabetes, which progresses over a year from having no complications (ICD-9 code 2500, HCC19) to having diabetes with ketoacidosis (ICD-9 code 2501). Diabetes with ketoacidosis is in the HCC for diabetes

with acute complications (HCC17). The progression of the disease would trigger the payments for HCC17, but not for HCC19. HCC17 is the more severe manifestation of the disease and the payments for HCC17 are higher than for HCC19.

CMS-HCC DISEASE HIERARCHIES

If the Disease Group is Listed in This Column...		...Then Drop the Associated Disease Group(s) Listed in This Column	
HCC Disease Group	Label	HCC Disease Group	Label
17	Diabetes with Ketoacidosis	19	Diabetes without Complications

Factor 1: Diabetes with Ketoacidosis, HCC17 = 0.339

Factor 2: Diabetes without Complications, HCC19 = 0.162

Risk Score = (demographics) + 0.339

70.2.7 - Disease and Disabled Interactions

(Rev. 114, Issued; 06-07-13, Effective: 06-07-13, Implementation: 06-07-13)

Disease Interactions - Certain combinations of coexisting diagnoses for an individual can increase medical costs more than the additive nature of the CMS-HCC model reflects. The CMS-HCC model recognizes these higher costs by incorporating disease interactions in the model.

Disabled Interactions - Interactions between certain diseases and disabled status for an enrollee can increase medical costs. The CMS-HCC model recognizes these higher costs by incorporating disease and disabled interactions in the model.

In calculating the interaction part of the risk score for an individual, the disease or disabled interaction factor is added to the remaining factors.

The following example uses the CMS-HCC risk adjustment model used in payment for years 2009 through 2011:

An individual who is disabled, lives in the community, and has been diagnosed with rheumatoid arthritis (ICD-9 code 7140, HCC38) and cystic fibrosis (ICD-9 code 2770, HCC107).

Factor 1: Rheumatoid Arthritis and Inflammatory Connective Tissue, HCC38 = 0.346

Factor 2: Cystic Fibrosis, HCC107 = 0.399

Factor 3: Disabled * Cystic Fibrosis, D_HCC107 = 1.097

Risk Score = (demographics) + 0.346 + 0.399 + 1.097

70.3 - End Stage Renal Disease (ESRD)

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

In addition to the CMS-HCC model used to improve payment accuracy for aged/disabled beneficiaries enrolled in MA plans and PACE organizations, CMS implemented the ESRD model to improve accuracy for enrollees with ESRD, including those in dialysis status, having transplants, and in post-graft status. The CMS-HCC ESRD model is based on the CMS-HCC model for aged/disabled beneficiaries: it uses the same HCCs and therefore retains the characteristics of the CMS-HCC model. The coefficients differ as they are estimated for the ESRD dialysis and transplant populations, which have different costs for their Part A and B benefits and different cost patterns among the various diagnoses.

The following are the segments of the ESRD model:

- Dialysis,
- Transplant, and
- Post-Graft/Functioning Graft

70.3.1 - Dialysis

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

Dialysis Status – Payments for beneficiaries are made using CMS-HCC ESRD dialysis risk scores when CMS has notification from a dialysis facility that the beneficiary is receiving dialysis in a Medicare certified facility. The dialysis facility submits the notification to CMS on the CMS-2728 form and the payment system uses this information to apply an ESRD dialysis risk score.

Payment for Medicare beneficiaries in dialysis status is made using the ESRD State ratebook: the risk score is multiplied by the appropriate State rate. See Chapter 8: Payments to Medicare Advantage Organizations.

70.3.2 - Transplant

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

Another component of the CMS-HCC ESRD model are the transplant factors. CMS pays for the high one-time cost of a transplant by making payments over three months to cover the costs for the transplant and the immediate subsequent services.

To estimate the factors for the month of the transplant and the two following months, CMS uses fee-for-service expenditures in these three months and attributes 50% of the costs to the first month, and half of the remaining costs to each of the second and third months following the transplant. The factors are calculated by dividing by the denominator for the CMS-HCC ESRD model.

CMS will make payment by determining the month of transplant and paying the three lump sum monthly amounts over the three-month period starting with the transplant month. The payments are calculated by multiplying the transplant factor by the applicable State rate. See Chapter 8: Payments to Medicare Advantage Organizations.

70.3.3 - Post-Transplant (Functioning Graft)

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

In addition to dialysis and transplant, post-transplant (functioning graft) is a component of the ESRD model. CMS defines these enrollees as those who received a kidney transplant at least three months before the payment month and have not returned to dialysis status since the transplant. This model segment includes additional factors in the risk score that account for the extra costs of immunosuppressive drugs and higher intensity of care for this group. These additional factors differ for months 4-9 after a transplant, and for months 10 onward. CMS calculates payments for functioning graft enrollees with risk scores calculated using the aged-disabled CMS-HCC model coefficients, with the exception of the coefficient for HCC174 (Major Organ Transplant).

MA organizations may locate the ratebook used to calculate payments to transplant enrollees on the CMS website at:

<http://www.cms.gov/MedicareAdvtgSpecRateStats/RSD/list.asp#TopOfPage>.

70.3.4 - New Enrollee Factors for Beneficiaries in ESRD Status

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

The dialysis and functioning graft models have new enrollee factors for enrollees who do not have 12 months of Part B enrollment in the data collection period and for whom full risk scores cannot be determined. CMS uses a new enrollee risk adjustment factor based on the beneficiary's demographic characteristics, including age, disability, and ESRD status when a beneficiary is too new to Medicare to have a risk adjustment factor. New enrollees with transplants receive the same transplant factors as full risk enrollees.

For ESRD enrollees who do not have an ESRD risk score calculated for them before the payment month (which may happen prior to final reconciliation), a default risk score is used in payment. Beginning in November 2008, plans can determine the payment model CMS used for the new enrollee beneficiary by reviewing the "Default Risk Factor Code" CMS communicated on the Monthly Membership Report in field 23. Table 8 outlines the Default Risk Factor Codes.

**Table 8. Default Risk Factors
[Field 23 on the Monthly Membership Report]**

Default Risk Factor Code	Definition
1	Default Enrollee – Aged/Disabled
2	Default Enrollee – ESRD Dialysis
3	Default Enrollee ESRD with Kidney Transplant, Month 1
4	Default Enrollee – ESRD with Kidney Transplant, Months 2 – 3
5	Default Enrollee – ESRD Post Graft, Months 4 – 9
6	Default Enrollee – ESRD Post Graft, Months 10 +
Blank	Not a default enrollee - Risk Adjustment Factor calculated by CMS

MA organizations may locate the ratebook used to calculate payments to transplant enrollees on the CMS website at <http://www.cms.hhs.gov/MedicareAdvtgSpecRateStats/RSD/list.asp#TopOfPage>.

**70.4 - Prescription Drug Hierarchical Condition Categories (RxHCC)
(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)**

Starting in 2006, with the implementation of the Part D program, CMS introduced a second major HCC-based risk adjustment model. Created with the passage of the Medicare Modernization Act (MMA) of 2003, the Medicare Part D Prescription Drug benefit became the second major Medicare capitated payment system. CMS developed the Part D RxHCC risk adjustment model to apply to monthly capitated payments to both Medicare Advantage (MA-PDs) and standalone prescription drug plans (PDPs). The Part D RxHCC risk adjustment model implemented in 2006 was developed using a structure similar to the CMS-HCC model, in that it included demographic and diagnosis information clustered into hierarchical condition categories. CMS obtains diagnoses for all Medicare beneficiaries from either fee-for-service claims or Medicare Advantage reporting. In 2011, CMS implemented an updated Part D RxHCC risk adjustment model, incorporating program data derived from prescription drug event (PDE) data. The data used to calibrate this updated model was more recent cost and utilization data, resulting in a model that reflects more recent drug cost and utilization patterns.

70.4.1 - RxHCC Risk Adjustment Model Segments

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

The RxHCC model includes some of the same characteristics as the CMS-HCC Model: it is a prospective model with additive coefficients subject to the application of hierarchies, and contains a model for new enrollees based on demographics. However, to address cost patterns that differ for subgroups of Part D eligible beneficiaries, the RxHCC model has segments that differ from those in the CMS-HCC model.

For the RxHCC risk adjustment model used in all years, the following rules apply:

- Beneficiaries can be either LTI or LIS, but the beneficiary cannot be both for purposes of risk adjustment.
- When a beneficiary has both LTI and LIS status, the LTI status is used for risk adjustment.

RxHCC Model from 2006 through 2010

The RxHCC model in place from 2006 through 2010 differs from the CMS-HCC model by incorporating LTI or LIS multipliers for qualifying beneficiaries (if applicable) to account for the incremental costs associated with each. These multiplicative factors are applied to a beneficiary's base risk factor, when appropriate. Table 9 describes the LTI and LIS multipliers. Table 10 provides the LTI and LIS factors.

Table 9. LTI and LIS Multipliers: 2006 – 2010 Payment Years

Multiplier	Description
General Rules	The demographic and disease factors are additive; the LTI and LIS factors are multipliers. After adding the demographic and disease factors for a total score in the base RxHCC model, the score is multiplied by the LTI or LIS factor, if applicable.
LTI	LTI factor is assigned to the risk scores of beneficiaries with 90 days of residence or greater in a nursing home and reported by the Minimum Data Set (MDS). LTI status is determined based on the data collection period. Accounts for higher overall spending because it is expected that the prices for specific packages of drugs beneficiaries receive are somewhat higher in the institution than the same drugs in the community.
LIS	Two LIS factors (full subsidy and partial subsidy) – one or the other is assigned to the risk score for enrollees based on their Part D determined LIS status. LIS status is determined during the payment year.

Table 10. LTI and LIS Factors: 2006 – 2010 payment years

Long-Term Institutional		Low Income	
Aged ≥ 65	Disabled < 65	Group 1 Full subsidy eligible	Group 2 Partial subsidy eligible (15%)
1.08	1.21	1.08	1.05

RxHCC Model Segments from 2011 to present:

- Aged, non-low income
- Aged, low income
- Disabled, non-low income

- Disabled, low income
- Institutional
- New Enrollee, non-low income
- New Enrollee, low income
- New Enrollee, institutional

70.4.2 - Low Income Status

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

From 2006 through 2010, the Part D risk adjustment model used a multiplier to adjust risk scores when the beneficiary had low income subsidy eligibility. Under the 2006-2010 RxHCC model, the multiplier differed if the beneficiary was full subsidy eligible or partial subsidy eligible. Starting in 2011, the Part D risk adjustment model no longer uses multipliers and instead uses a separate risk score for beneficiaries who have low income status. This new model applies an aged low income or disabled low income risk score when the beneficiary has either full or partial low income status and does not have long term institutional status. Low income status is determined as of the payment month.

70.4.3 - Long Term Institutional Status

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

From 2006 through 2010, the Part D risk adjustment model used a multiplier to adjust risk scores when the beneficiary enrolled in the Part D plan had Long Term Institutional status. Starting in 2011, the Part D risk adjustment model no longer uses multipliers and instead uses a separate risk score for beneficiaries who have LTI status. Regardless of payment year and risk model used, the Part D risk adjustment model will consider a beneficiary's LTI status in the payment year, not the data collection year; this approach more accurately reflects treatment patterns upon which costs are based.

CMS uses information from the Minimum Data Set (MDS), collected routinely from nursing homes, to identify the population of long-term institutionalized. MDS assessments are sent to CMS on at least a quarterly basis. CMS uses the presence of a 90-day assessment to identify the long-term residents for payment purposes. Payment using a long term institutional risk score will begin at the start of the month following the 90-day assessment. Once persons are so identified, they remain in long-term status until discharged to the community for more than fourteen days. The costs of the short term institutionalized (less than 90 days) are recognized in the community model.

At the final payment reconciliation that takes place post-contract year, CMS uses each beneficiary's actual month-by-month LTI status in the payment year to determine which risk score or multiplier to apply. Because CMS calculates initial and mid-year risk scores before it has complete data on beneficiaries' LTI status in the payment year, it uses the presence of a 90-day assessment reported for any one month during the 12-month data collection period as a proxy for LTI in the payment year.

MMR fields specific to LTI status.

- RA Factor Type Code (field 47; positions 189-90) – A value of "I" means that the enrollee has been institutionalized 90+ days as of the payment month.
- Part D Long Term Institutional Indicator (field 70; position 325) - Values are A (aged), D (disabled), or blank. The enrollee has been in an institution for 90+ days as of the payment month. The Part D LTI multiplier is applied on a concurrent basis and based on the person's current Medicare entitlement status (aged, or disabled). For example, "LTI Aged" means that an Aged (65+) beneficiary has a 90+ day assessment during the month that the LTI Aged multiplier was applied for payment.

70.5 - CMS RxHCC Risk Adjustment Model Compared with the CMS-HCC Risk Adjustment Model

(Rev. 114, Issued; 06-07-13, Effective: 06-07-13, Implementation: 06-07-13)

This section describes the similarities and differences between the Part D RxHCC risk adjustment model and the Part C CMS-HCC risk adjustment model.

70.5.1 - Model Similarities

(Rev. 118; Effective: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010); Implementation: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010))

The CMS-HCC and the CMS RxHCC risk adjustment models are constructed and calibrated using the same methodology and many of the same data sources.

Source of diagnoses: Individual ICD diagnosis codes, both for the calibration of the models, and to calculate risk scores for payment, are taken from FFS claims and MA-reported diagnosis data.

Regression model to predict expenditures: The models for continuing enrollees and new enrollees are calibrated using a multiple regression analysis of actual expenditures. Both models predict benefit costs for which the plans are responsible for covering. The CMS-HCC model predicts full Part A and B Medicare expenditures. The RxHCC model predicts those expenditures for which Part D sponsors are responsible, i.e., drug costs excluding cost sharing amounts for which the enrollee or the government is responsible for paying. This RxHCC model is sometimes referred to as the plan liability model, to distinguish it from the total spending model, which has been calibrated for analytic purposes only.

Additive and hierarchical model: The two models generate enrollee risk scores by adding relative risk weights for individual risk markers that have been assigned to the beneficiary. This allows more than one disease to impact the final risk score. Both of the models use diagnostic hierarchies. Hierarchies prevent multiple diagnoses in the same

disease group from inappropriately increasing the risk score. In this way, someone with metastatic cancer and breast cancer receives credit only for the former, rather than both. This is clinically appropriate and lessens the impact of variations in diagnosis coding completeness.

Used to adjust capitated payment amounts: Risk adjustment is intended to adjust capitated payment amounts to pay plans fairly and accurately, thereby decreasing incentives for health plans to avoid enrolling sicker beneficiaries. Both of these models adjust standardized payments for the underlying health status of the beneficiaries enrolled in the plan. The RxHCC model adjusts the monthly Part D direct subsidy. The CMS-HCC model adjusts Part C monthly payments to Medicare Advantage plans and PACE organizations.

Risk scores are relative and reflect the standard benefit: Each beneficiary's risk score is calculated to estimate that specific beneficiary's expected costs, relative to the average beneficiary. For each model, a risk score of 1.0 reflects the Medicare-incurred expenditures of an average beneficiary. An RxHCC risk score of 1.0 indicates the beneficiary is expected to incur the average liability amount for prescription drugs when covered by the standard Part D Medicare benefit. A CMS-HCC risk score of 1.0 indicates the beneficiary is expected to incur the average Medicare program expenditure for Parts A and B services.

70.5.2 - Model Differences

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

While both the CMS-HCC and the RxHCC models use health status (diagnoses) to predict expenditures, the total expenditures that each model is predicting are quite different (medical versus prescription drug) and, therefore, may result in different weights on similar HCCs, as well as different risk scores for an individual beneficiary.

Risk adjustment attempts to account for the differences in expenditures incurred by a plan due to differences in the health status of the beneficiaries enrolled in the plan. Since the impact of health status factors, and the benefit design, are different between Parts C and D, two risk adjustment models have been designed.

80 - Frailty Adjuster

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

The Balanced Budget Act of 1997 (BBA) mandated that Medicare capitated payments to Program of All-Inclusive Coverage for the Elderly (PACE) organizations be based on MA payment rates, adjusted to account for the comparative frailty of PACE enrollees. The frailty adjuster is included as part of risk adjusted payments for PACE organizations and, between 2004 and 2011, for certain demonstration organizations.

The frailty adjustment approach that was implemented in 2004 is to be applied in conjunction with the CMS-HCC risk adjustment model. Risk adjustment predicts (or

explains) the future Medicare expenditures of individuals based on diagnoses and demographics. But risk adjustment may not explain all of the variation in expenditures for frail community populations. The purpose of frailty adjustment is to predict the Medicare expenditures of community populations with functional impairments that are unexplained by risk adjustment.

CMS calibrates the frailty factors by regressing the residual, or unexplained, costs from the CMS-HCC risk adjustment model on counts of activities of daily living (ADLs). CMS uses the number of functional limitations represented by the Activities of Daily Living (ADL) scale to calibrate the frailty model and then to determine the relative organization-level frailty of those in the community that are 55 years of age and older. There are six ADLs:

- Bathing and showering
- Dressing
- Eating
- Getting in or out of bed or chairs
- Walking
- Using the toilet

CMS obtains ADLs from surveys of the general Medicare population. The frailty model used during payment years 2004-2007 was calibrated using ADLs from the Medicare Current Beneficiary Survey (MCBS). The frailty model used 2008 onward was calibrated using ADLs from the Fee-For-Service (FFS) Consumer Assessment of Health Providers & Systems (CAHPS).

The MCBS is a face-to-face survey, while the FFS CAHPS data is a mail survey with a telephone follow-up. By using the FFS CAHPS ADL results to calibrate the frailty factors, CMS uses methodologically-similar surveys for both calibrating the frailty model and for calculating annual frailty scores. The annual frailty scores are calculated using results from the Health Outcomes Survey – Modified (HOS-M), which is an anonymous mail-in survey with telephone follow-up.

In addition, the CAHPS frailty calibration sample is much larger than the MCBS sample. The CAHPS data can better determine the relationship between frailty and costs given Medicaid and non-Medicaid status in the general Medicare population. As a result, starting in 2008, the frailty model includes separate factors for Medicaid and non-Medicaid beneficiaries. The result is more accurate payment because Medicaid and non-Medicaid frail populations show differences in the relationships between unexplained expenditures (in the CMS-HCC model) and functional impairments.

Contract-level frailty scores are calculated by multiplying the proportion of respondents in each ADL category by the factor for that category, and then summing the products across each category. In some cases, a transition blend or phase out factor has been used

(see below) to transition from one frailty model to another. See below for examples of calculations of frailty scores.

At payment, CMS adjusts the payment for an enrollee in an eligible organization, if that beneficiary is age 55 and over, and living in the community. Because the CMS-HCC model has been designed to pay appropriately for the long-term institutionalized population, frailty adjustments are added to the risk scores only for community-based and short-term institutionalized enrollees (i.e., the frailty adjustment for long-term institutionalized enrollees is zero).

For PACE organizations and demonstrations between 2004 and 2011, the frailty score that is added to the beneficiary’s risk score is calculated at the contract-level, using the aggregate counts of ADLs among survey respondents enrolled in a specific organization. Updated frailty factors are published in the Rate Announcement for the payment year in which they are first used.

Example – how to calculate a frailty score:

CMS calculates PACE organizations’ frailty scores at the contract level. Below is an example of the calculation of a PACE frailty score for payment year 2009.

Frailty factors used to calculate 2009 frailty scores for PACE organizations:

	<u>2007</u>	<u>2009</u>	
		<u>Non-Medicaid</u>	<u>Medicaid</u>
0 ADLs	-0.141	-0.093	-0.180
1-2 ADLs	0.171	0.112	0.035
3-4 ADLs	0.344	0.201	0.155
5-6 ADLs	1.088	0.381	0.200

The following table provides an example of results from the Health Outcome Survey-Modified (HOS-M) for a sample PACE organization:

ADL count among respondents to HOS-M	Medicaid	Non-Medicaid	Total
0	13	15	28
1-2	35	32	67
3-4	40	22	62
5-6	36	33	69
Total respondents	226		

1. Calculate the organization’s frailty score using 2007 frailty factors

$$\begin{aligned} \text{Frailty score} &= \\ &28/226*(-0.141) + 67/226*(0.171) + 62/226*(0.344) + 69/226*(1.088) \\ &=0.460 \end{aligned}$$

2. Calculate the organization's frailty score using the 2009 frailty factors:

$$\begin{aligned} \text{Frailty score} &= \\ &13/226*(-0.180) + 15/226*(-0.093) + 35/226*(0.035) + 32/226*(0.112) + \\ &40/226*(0.155) + 22/226*(0.201) + 36/226*(0.200) + 33/226*(0.381) \\ &=0.139 \end{aligned}$$

3. Calculate blended frailty score for use in payment:

$$\begin{aligned} \text{2009 blend: } &70\% \text{ of the frailty score calculated using pre-2008 frailty factors and} \\ &30\% \text{ of the frailty score calculated using 2009 frailty factors} \\ \text{Frailty score for payment} &= 0.460*0.7 + 0.139 * 0.3 = 0.364 \end{aligned}$$

Example – how to calculate payment with a frailty adjustment

For calendar year 2009, a PACE member resides in the community and is aged 82. The payment to the PACE organization will be calculated with a risk score that is the sum of the regular CMS-HCC risk score plus the organization's frailty score.

$$\text{Beneficiary's risk score} = 2.3$$

$$\text{PACE organization's frailty score} = 0.364$$

$$\text{Risk score used in payment for the beneficiary} = 2.664 = 2.3 + 0.364$$

Frailty Adjustment Transition for PACE Organizations

PACE Organizations are transitioning from the pre-2008 frailty model to the updated frailty model from 2008-2012 payment years. Frailty adjustment will be applied to payment to PACE organizations using the transition schedule published in the 2008 – 2011 Rate Announcements. The full transition schedule is as follows:

- In 2008 (year 1): 90% of the frailty score calculated using the pre-2008 frailty factors and 10% of the frailty score calculated using the 2008 frailty factors.
- In 2009 (year 2): 70% of the frailty score calculated using the pre-2008 frailty factors and 30% of the frailty score calculated using the 2009 frailty factors.
- In 2010 (year 3): 50% of the frailty score calculated using the pre-2008 frailty factors and 50% of the frailty score calculated using the 2009 frailty factors.
- In 2011 (year 4): 25% of the frailty score calculated using the pre-2008 frailty factors and 75% of the frailty score calculated using the 2009 frailty factors.
- In 2012 (year 5): 100% of the most recently calibrated frailty factors.

Frailty Adjustment Transition for Certain Demonstrations

Frailty adjustments will be applied to payments for certain MA plan types using a phase-out schedule between 2008 and 2012. For 2008 – 2010, plans that were participating in the following demonstrations received frailty payments under the schedule below: Social Health Maintenance Organizations (S/HMOs), Minnesota Senior Health Options (MSHO)/ Minnesota Disability Health Options (MnDHO), Wisconsin Partnership Program (WPP) and Massachusetts Senior Care Options (SCO) plans. For 2011, a subset of these plans continued to receive frailty payments. The full phase out schedule is as follows:

- In 2008: 75% of the frailty score calculated using the pre-2008 frailty factors.
- In 2009: 50% of the frailty score calculated using the pre-2008 frailty factors.
- In 2010: 25% of the frailty score calculated using the pre-2008 frailty factors.
- In 2011: 25% of the frailty score calculated using the pre-2008 frailty factors.
- In 2012: 0% paid under demonstration authority

90 - Normalization Factor

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

Each time CMS calibrates a risk adjustment model, it will produce a fixed set of dollar coefficients that are appropriate to the population and data for that calibration year. When CMS divides the dollar coefficients by the average expected expenditures in a given year, CMS converts the dollar coefficients into relative factors in such a way that CMS ensures that the average risk score in the denominator year is 1.0. When the model with fixed coefficients is used to predict risk scores for other years, predictions for prior years are less than 1.0 and predictions for succeeding years are higher than 1.0. Because average predicted FFS risk scores increase after the model calibration year due to coding and population changes, CMS applies a normalization factor to adjust beneficiaries' risk scores so that the average risk score is 1.0 in subsequent years.

The normalization factor is calculated by first using the model to predict risk scores for the FFS population over a number of years. Next, CMS estimates the annual average trend in the risk scores over these years. This annual trend is then compounded by the number of years between the model denominator year and the payment year to produce the normalization factor for the payment year.

CMS uses a standard of five years of data in the normalization trend. Each year, CMS drops the earliest year and adds a new year of risk scores to the trend data to create the five-year dataset. By using a standard number of years, CMS calculates risk score trends based on recent trends in coding, while maintaining stability in the year-to-year trends used.

Normalization factors are downward adjustments to risk scores and are applied to risk scores when they are calculated (prior to 2007, CMS applied the normalization factor to the ratebook). Risk scores on the Monthly Membership Report (MMR) are always normalized. Each year's normalization factors are announced in that year's Rate

Announcement, published in April prior to the payment year. Table 11 supplies the normalization factor by payment year.

Table 11. Normalization factors used in payment years

	CMS-HCC	RxHCC	Dialysis/Transplant	Functioning Graft
2007	1.029	NA	NA	1.029
2008	1.040	1.065	1.010	1.040
2009	1.030	1.085	1.019	1.058
2010	1.041	1.146	1.039	1.072
2011	1.058	1.029	1.060	1.088

100 - MA Coding Adjustment

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

Because CMS calibrates the CMS-HCC model using FFS data, the relative factors reflect the FFS pattern of coding. CMS adjusts for the trend in the rate of increase of diagnosis codes submitted by FFS providers with the application of a normalization factor that is updated annually and that reduces risk scores with the goal that the average remains 1.0 in each payment year. Because MA coding patterns differ from those in FFS, MA risk scores increase more quickly and are, therefore, higher than they would be if MA plans coded in the same manner as FFS providers.

Beginning in 2010, CMS instituted a separate adjustment to the Part C risk scores to account for differential coding patterns between MA and FFS. The adjustment for 2010 of 3.41% was based on our estimate of how much lower plans' 2010 risk scores would have been if the disease scores (the portion of the risk score attributable to diagnostic coding) for MA enrollees who stayed in an MA plan during the period 2007 to 2010 ("MA stayers") had grown at the same rate as FFS beneficiaries' risk scores during this period. In calculating the adjustment for MA coding differences, CMS removed the impact of differences in rising risk scores that are attributed to enrollment into and disenrollment out of MA plans, aging and other demographic changes, and adjusted for age and sex effects on disease coding changes. For a description of the coding adjustment for 2011-2013 please see the 2010 Rate Announcement.

110 - Risk Adjustment Process and Payment

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

The risk adjustment process incorporates demographic and diagnostic data.

Demographic data includes:

- HICN, age, original reason for entitlement (e.g., disability), and Medicaid status
- Long Term Institutional status
- Primary payer information

- ESRD status

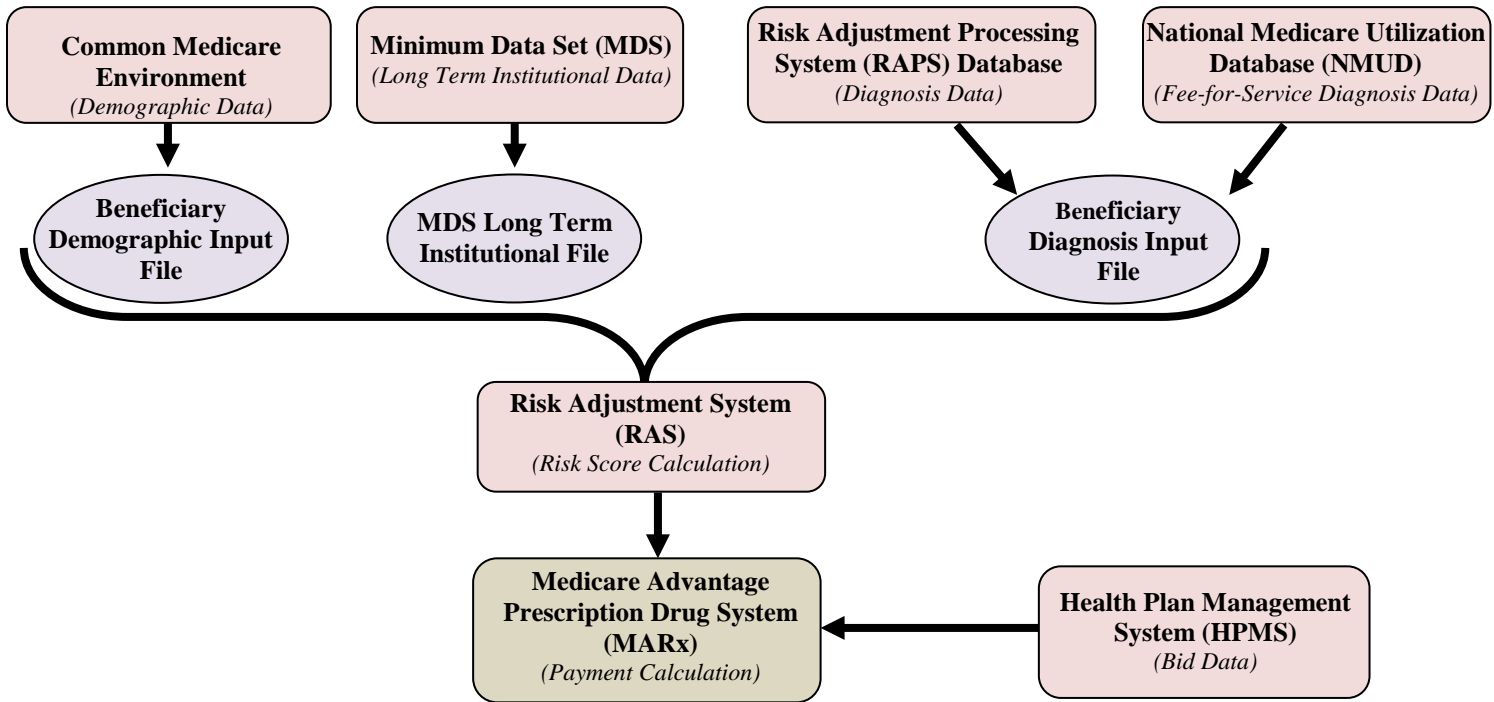
Diagnostic Data is used in risk score calculations and is obtained from both plans and FFS providers.

- The **Risk Adjustment Processing System (RAPS) Database** contains the diagnostic data submitted by Medicare Advantage plans, PACE organizations, and cost plans.
- The **National Medicare Utilization Database (NMUD)** contains the diagnostic data submitted by fee-for-service providers.

The Risk Adjustment System (RAS) calculates risk scores for all Medicare beneficiaries, which are sent to the payment system for use in calculating payment.

Figure 1 illustrates the systems and databases that provide data used in risk score calculations and ultimately in payment calculations in MARx. The components of the process are described in further detail throughout the chapter.

Figure 1. Risk Adjustment Payment Process



120 - Operations

(Rev. 118; Effective: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010); Implementation: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010))

CMS requires Medicare Advantage plans to collect hospital inpatient, hospital outpatient, and physician risk adjustment data and submit the data to CMS at least quarterly for calculation of the risk score for use in the payment calculation and payment reconciliation. Each quarterly submission should represent approximately one-fourth of the data a plan submits during a data collection year.

Once plans have collected the data and verified the data came from an acceptable data source, the plans submit the data using the Risk Adjustment Processing System (RAPS) format and provide the five required data elements in the cluster. Table 12 lists the five required elements and a description for each.

Table 12. Five Required Data Elements/Descriptions

Required Data Element	Description
Health Insurance Claim (HIC) Number	Beneficiary identification number issued by the Railroad Retirement Board (RRB) or the Social Security Administration (SSA).
Diagnosis code	<i>International Classification of Diseases (ICD)</i> codes are used to describe the clinical reason for a patient's treatment.
Service from date	The dates of service define when a beneficiary received medical treatment from a physician or medical facility. For outpatient and physician services, the From Date and Through Date may be identical. For inpatient services, these dates are usually different from each other, and reflect the dates of admission to and discharge from a facility.
Service through date	
Provider type	The types of providers, for the purpose of risk adjustment, MA organizations must collect data from are: <ul style="list-style-type: none">• Hospital Inpatient facilities• Hospital outpatient facilities• Physicians

Plans submit the five data elements in the RAPS format (or the Direct Data Entry, an online data entry application for the RAPS format) to the Front End Risk Adjustment System (FERAS) for initial edit checks. FERAS transmits files successfully passing the initial edit checks to RAPS for detailed editing and processing.

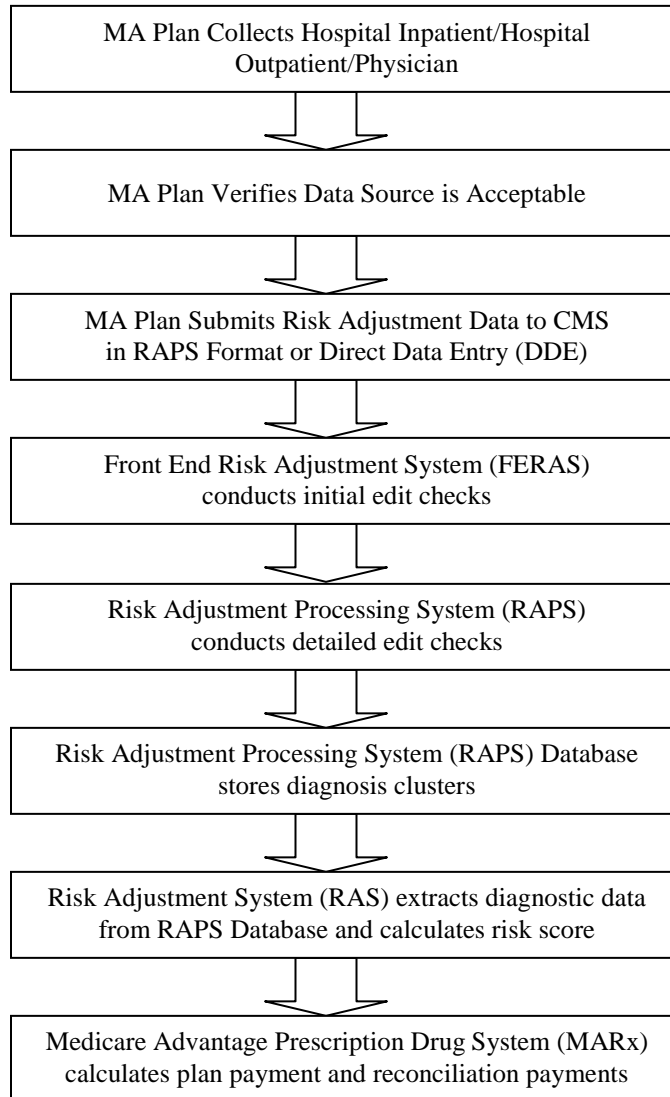
The FERAS and RAPS systems generate Transaction Reports describing the status of the transaction and any errors that occurred during processing. RAPS also provides Management Reports that identify the disposition of the submitted data so plans can verify their data and project their payment.

Finalized diagnosis clusters are stored in the RAPS database and used for calculation of risk scores. The Risk Adjustment System (RAS) extracts the diagnostic data from the RAPS database to calculate risk scores by executing the CMS-HCC payment model.

RAS sends the risk scores to the Medicare Advantage Prescription Drug System (MARx) for use in calculation of plan payments and payment reconciliation.

Figure 2 illustrates the risk adjustment collection, submission, and payment process.

Figure 2. Operations Overview



120.1 - Data Collection to Support Risk Adjustment (Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

According to 42 CFR 422, MA organizations must collect and submit to CMS the data necessary to characterize the context and purposes of each service provided to a Medicare enrollee by a provider, supplier, physician, or other practitioner. CMS may also collect data necessary to characterize the functional limitations of enrollees of each MA organization.

120.1.1 - Sources of Data

(Rev. 118; Effective: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010); Implementation: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010))

CMS requires that MA organizations collect data for the purposes of risk adjustment from the following provider types:

- Hospital inpatient facilities
- Hospital outpatient facilities
- Physicians

Unacceptable Data Sources

It is important for MA organizations to note that regardless of the type of diagnostic radiology bill (outpatient department or physician component), the diagnostic data associated with these services are not acceptable for risk adjustment. Diagnostic radiologists typically do not document confirmed diagnoses. The diagnosis confirmation comes from referring physicians or physician extenders and is, therefore, not assigned in the medical record documentation from diagnostic radiology services alone.

Excluded Providers

Medicare will not pay for items or services rendered to beneficiaries and recipients by an excluded provider or by entities owned or managed by an excluded provider. Therefore, MA organizations should not submit risk adjustment data if it was submitted by an excluded provider. Providers are excluded for the following reasons: a program related crime, patient abuse or neglect, health care fraud in any health care program, and convictions relating to controlled substances.

The HHS monthly exclusion notification can be found at <http://oig.hhs.gov/fraud/exclusions.asp>.

Hospital Inpatient

A hospital inpatient service is one provided by a hospital during which a patient is admitted to the facility for at least one overnight stay. Table 13 identifies covered and non-covered facilities with regard to risk adjustment diagnoses data collection.

Table 13. Hospital Inpatient Sources of Diagnostic Data

RAPS Provider Type	Covered Facilities	Non-Covered Facilities*
Hospital Inpatient	Short-term (general and specialty) Hospitals Religious Non-Medical Health Care Institutions (formerly Christian Science Sanatoria) Long-term Hospitals Rehabilitation Hospitals Children’s Hospitals Psychiatric Hospitals Medical Assistance Facilities/ Critical Access Hospitals	Skilled Nursing Facilities (SNFs) Hospital Inpatient Swing Bed Components Intermediate Care Facilities Respite Care Hospice

*These are examples of non-covered facilities and not a comprehensive list.

NOTE: When submitting hospital inpatient data, MA organizations must make a distinction between the principal diagnosis and other diagnoses. Section 120.2 Submission and Flow of Risk Adjustment Data covers the details of submitting data.

Hospital Outpatient

Hospital outpatient services are therapeutic and rehabilitative services provided for sick or injured persons who do not require inpatient hospitalization or institutionalization.

Table 14 identifies covered and non-covered hospital outpatient facilities. MA organizations should refer to this table with regard to risk adjustment data collection.

Table 14. Outpatient Sources of Diagnostic Data

RAPS Provider Type	Covered Facilities	Non-Covered Facilities*
---------------------------	---------------------------	--------------------------------

RAPS Provider Type	Covered Facilities	Non-Covered Facilities*
Hospital Outpatient	Short-term (general and specialty) Hospitals Medical Assistance Facilities/Critical Access Hospitals Community Mental Health Centers 1** Federally Qualified Health Centers 2/ Religious Non-Medical Health Care Institutions (formerly Christian Science Sanatoria) ** Long-term Hospitals Rehabilitation Hospitals Children’s Hospitals Psychiatric Hospitals Rural Health Clinic (Free-standing and Provider-Based) 3**	Free-standing Ambulatory Surgical Centers (ASCs) Home Health Care Free-standing Renal Dialysis Facilities
	Non-Covered Services	
	Laboratory Services Ambulance Durable Medical Equipment Prosthetics	Orthotics Supplies Radiology Services

* These are examples of non-covered facilities and are not to be considered a comprehensive list.

** Facilities use a composite bill that covers both the physician and the facility component of the services, and services rendered in these facilities do not result in an independent physician claim.

1. Community Mental Health Centers (CMHCs) provide outpatient services, including specialized outpatient services for children, the elderly, individuals who are chronically ill, and residents of the CMHC’s mental health services area who have been discharged from inpatient treatment at an inpatient facility.

2. Federally Qualified Health Centers (FQHCs) are facilities located in a medically underserved area that provide Medicare beneficiaries with preventive primary medical care under the general direction of a physician.

3. Rural Health Clinics (RHCs) are Medicare certified facilities that are located in a rural, medically underserved area that provide ambulatory primary medical care under the general direction of a physician.

Determining Whether Facilities Are Acceptable for Risk Adjustment – MA organizations are responsible for ensuring that data collected and submitted to CMS are acceptable for the risk adjustment process. However, the NPI does not convey information regarding the type of facility or provider specialty, so a new code called the “taxonomy code” can be used to help identify types of providers. Both the legacy provider number and the taxonomy code can be used in determining the appropriateness of the covered hospital entities for the purposes of risk adjustment data collection. Table 15 illustrates the steps MA organizations may use to identify the provider numbers or taxonomy codes for facilities.

Table 15. Determining Covered Hospital Entity Provider Numbers

Situation	Issue	Action
Situation 1	The CCN or taxonomy code is identified.	Determine if the number is in an acceptable range for risk adjustment. If in the acceptable range, submit the data.
Situation 2	An in-network provider submitted a claim but did not include any provider number or taxonomy code.	Obtain the provider number or taxonomy code and then determine if the number is in an acceptable range for risk adjustment. If in the acceptable range, submit the data. NOTE: All network providers are required to have provider numbers or taxonomy codes; therefore, do not submit risk adjustment data for this provider until these numbers are obtained.
Situation 3	An out-of-network provider submits a claim without a provider number.	Plans must obtain a provider number or taxonomy code.

National Provider Identifier – MA organizations should verify that diagnoses are collected from Medicare certified hospitals/facilities and that data from all Medicare certified network hospital/facilities include the associated Medicare provider identifiers (NPI and taxonomy code; or the legacy provider number). They should also verify that the Medicare certified hospitals/facilities providing the data are from acceptable facilities and services. As stated above, plans may use either the Medicare provider numbers or the taxonomy code to determine if facilities and services are acceptable for risk adjustment.

Plan sponsors may wish to create a system for checking if the data are from acceptable facilities and for acceptable services. They may check the legacy provider number

against the provider number ranges or check the taxonomy code against the taxonomy code ranges, both of which identify what type of service has been rendered.

- If using the legacy provider number, please note that it has six characters.
 - The first two characters are numerals and represent the state/territory as illustrated in Table 16.

Table 16. Provider Number State Assignments

State	Code	State	Code	State	Code
Alabama	01	Kentucky	18	Oklahoma	37
Alaska	02	Louisiana	19	Oregon	38
American Samoa	64	Maine	20	Palau	N/A
Arizona	03	Maryland	21	Pennsylvania	39
Arkansas	04	Massachusetts	22	Puerto Rico	40
California	05	Michigan	23	Rhode Island	41
Colorado	06	Minnesota	24	South Carolina	42
Connecticut	07	Mississippi	25	South Dakota	43
Delaware	08	Missouri	26	Tennessee	44
District of Columbia	09	Montana	27	Texas	45
Florida	10	Nebraska	28	Utah	46
Georgia	11	Nevada	29	Vermont	47
Guam	65	New Hampshire	30	Virgin Islands	48
Hawaii	12	New Jersey	31	Virginia	49
Idaho	13	New Mexico	32	Washington	50
Illinois	14	New York	33	West Virginia	51
Indiana	15	North Carolina	34	Wisconsin	52
Iowa	16	North Dakota	35	Wyoming	53
Kansas	17	Ohio	36		

- The third character may be a numeral or a letter. Provider numbers with a **U**, **W**, **Y**, **Z**, **5**, or **6** in the third character indicate that the service was provided in a swing bed component of a hospital or a skilled nursing facility, which, are not covered entities. The last three characters are numerals unique to the facility.
- If using the taxonomy code, the bill type will be needed to identify if the service was provided by a non-covered entity such as a swing bed component of a hospital or a skilled nursing facility.

As an additional check, refer to Tables 17 and 18, which provide the only acceptable ranges for hospital facilities. The tables reflect the range of legacy provider numbers for

risk adjustment covered hospital entities. Risk adjustment data are not acceptable when received from facilities with numbers outside the ranges.

NOTE: Skilled nursing facilities, home health care, and hospital inpatient swing bed components are not covered entities for risk adjustment data.

Table 17. Hospital Inpatient Covered Entities

Type Of Hospital Inpatient Facility	Provider Number Range	Taxonomy Code/ Type of Bill (TOB)
Short-term (General and Specialty) Hospital	XX0001- XX0899 XXS001- XXS899 XXT001- XXT899	282N00000X 273R00000X 273Y00000X
Medical Assistance Facilities/Critical Access Hospitals	XX1225- XX1399	282NC0060X
Religious Non-Medical Health Care Institutions	XX1990- XX1999	TOB 4XX
Long-term Hospitals	XX2000- XX2299	282E00000X
Rehabilitation Hospitals	XX3025- XX3099	283X00000X
Children’s Hospitals	XX3300- XX3399	282NC2000X
Psychiatric Hospitals	XX4000- XX4499	283Q00000X

Table 18. Hospital Outpatient Covered Entities

Type Of Hospital Outpatient Facility	Provider Number Range	Taxonomy Code/ Type of Bill (TOB)
Short-term (General and Specialty) Hospital	XX0001-XX0899 XXS001-XXS899 XXT001-XXT899	282N00000X 273R00000X 273Y00000X
Medical Assistance Facilities/Critical Access Hospitals	XX1225-XX1399	282NC0060X
Community Mental Health Centers	XX1400-XX1499 XX4600-XX4799 XX4900-XX4999	TOB 76X
Federally Qualified Health Centers/Religious Non-Medical Health Care Institutions	XX1800-XX1999	TOB 73X for FQHC TOB 4XX for RNHCI
Long-term Hospitals	XX2000-XX2299	282E00000X
Rehabilitation Hospitals	XX3025-XX3099	283X00000X
Children’s Hospitals	XX3300-XX3399	282NC2000X

Type Of Hospital Outpatient Facility	Provider Number Range	Taxonomy Code/ Type of Bill (TOB)
Rural Health Clinics, Freestanding and Provider-Based	XX3400-XX3499 XX3800-XX3999 XX8500-XX8999	TOB 71X
Psychiatric Hospitals	XX4000-XX4499	283Q00000X

The implementation of the NPI did not change the valid Hospital Inpatient and Outpatient facilities for submission of risk adjustment data nor eliminate the process for receiving and verifying information from Medicare health care providers that are in network. Institutional providers that currently bill Medicare using more than one legacy identifier in order to identify subparts of their facility are required to submit a taxonomy code on all of the claims they submit to Medicare.

The Health Care Provider Taxonomy Code Set website, <http://www.wpc-edi.com/codes/taxonomy>, serves as a reference to types of facilities and taxonomy codes.

The American Hospital Directory website, <http://www.ahd.com/freesearch.php3>, serves as a reference for hospital provider numbers.

Physician

The collection of physician data relevant for risk adjustment is associated with the physician's specialty. That is, all diagnoses that are in the risk adjustment model and rendered as a result of a physician visit must be collected by the MA organization. This includes data collected from non-network as well as network physicians.

Qualified physician data for risk adjustment requires a face-to-face visit with the exception of pathology services (professional component only).

Only those physician specialties and other clinical specialists identified in Table 19 are acceptable for risk adjustment.

**Table 19. Acceptable Physician Specialty Types
Payment Year 2011 (dates of services 2010)**

CODE	SPECIALTY	CODE	SPECIALTY	CODE	SPECIALTY
1	General Practice	26	Psychiatry	67	Occupational Therapist
2	General Surgery	27**	Geriatric Psychiatry	68	Clinical Psychologist
3	Allergy/Immunology	28	Colorectal Surgery	72*	Pain Management
4	Otolaryngology	29	Pulmonary Disease	76*	Peripheral Vascular Disease
5	Anesthesiology	33*	Thoracic Surgery	77	Vascular Surgery
6	Cardiology	34	Urology	78	Cardiac Surgery
7	Dermatology	35	Chiropractic	79	Addiction Medicine
8	Family Practice	36	Nuclear Medicine	80	Licensed Clinical Social Worker
9**	Interventional Pain Management (IPM)	37	Pediatric Medicine	81	Critical care (intensivists)
10	Gastroenterology	38	Geriatric Medicine	82	Hematology
11	Internal Medicine	39	Nephrology	83	Hematology/Oncology
12	Osteopathic Manipulative Therapy	40	Hand Surgery	84	Preventive Medicine
13	Neurology	41	Optometry	85	Maxillofacial Surgery
14	Neurosurgery	42	Certified Nurse Midwife	86	Neuropsychiatry
15	Speech Language Pathologist	43	Certified Registered Nurse Anesthetist	89*	Certified Clinical Nurse Specialist
16	Obstetrics/Gynecology	44	Infectious Disease	90	Medical Oncology
17**	Hospice And Palliative Care	46*	Endocrinology	91	Surgical Oncology
18	Ophthalmology	48*	Podiatry	92	Radiation Oncology
19	Oral Surgery	50*	Nurse Practitioner	93	Emergency Medicine
20	Orthopedic Surgery	62*	Psychologist	94	Interventional Radiology
22*	Pathology	64*	Audiologist	97*	Physician Assistant
24*	Plastic And Reconstructive Surgery	65	Physical Therapist	98	Gynecologist/Oncologist
25	Physical Medicine And Rehabilitation	66	Rheumatology	99	Unknown Physician Specialty

* Indicates that a number has been skipped.

** Added effective January 1, 2010 dates of service

120.2 - Submission and Flow of Risk Adjustment Data (Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

The following outlines the flow of risk adjustment data:

- Hospital/Physician submits data to MA organization using standard claims formats, or through review of medical records.
- The MA organization submits required data at least quarterly to FERAS via Direct Data Entry (DDE) or RAPS format.
- FERAS checks the file-level data, batch-level data, and first and last detail records on each Batch Record within the file.
- If any data are rejected, the rejections are reported on the FERAS Response Report.
- After passing the FERAS checks, the file is submitted to RAPS where detail editing is performed and applicable reports are generated.
- The RAPS Return File contains the entire submitted transaction and identifies errors.
- The RAPS Transaction Error Report communicates errors found in CCC records during processing.
- The RAPS Transaction Summary Report summarizes the disposition of the diagnosis clusters.
- The Duplicate Diagnosis Cluster Report identifies diagnosis clusters with the 502-error message. Duplicate clusters are accepted but not stored.
- The RAPS Monthly Plan Activity Report and Cumulative Plan Activity Report provides a summary of the status of submissions by submitter ID and plan number.
- Distributed monthly and quarterly, the Error Frequency Report provides an overview of all errors associated with files submitted in test and productions.
- RAPS database stores all finalized diagnosis clusters.
- RAS calculates the Risk Adjuster Factors by executing the CMS-HCC model.
- MARx is used in the calculation of payments and determination of plan payments.

120.2.1 - Data Exchange Requirements (Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

Prior to submitting risk adjustment data to CMS, CMS requires MAOs to:

- Complete and submit an Electronic Data Interchange (EDI) Agreement to the Customer Service and Support Center (CSSC) within 1 month of their contract's HPMS effective date.
 - The EDI Agreement is a contract between the MAO and CMS attesting to the accuracy of the data submitted.
 - An officer (e.g., CEO) that represents the MAO must sign the EDI Agreement
- Submit test data within three months of the HPMS effective date.
- Submit production files within four months of the HPMS effective date and continue to submit at least one time per quarter.

If the MAO uses a third party submitter:

- A Letter of Authorization on company letterhead from the plan is required indicating that the third party vendor is going to submit on their behalf.
- The MAO must complete the EDI Agreement.
- The third party submitter must complete the Submitter ID Application Form.

If the MAO establishes a new contract number, the MAO must submit a new EDI agreement. If the submitter's system successfully submitted test data previously, CMS does not require additional testing.

Note: CMS holds the MA organization accountable for the content of submissions regardless of who submits the data.

120.2.2 - Format

(Rev. 118; Effective: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010); Implementation: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010))

In accordance with CMS' 2008 Call Letter, MA organizations must submit risk adjustment data electronically using one of two formats to enable CMS to more efficiently process the data at CSSC and ensure appropriate payment under the risk adjustment payment models. MA organizations must submit data electronically using either the RAPS format or the Direct Data Entry (DDE) option. Both of these formats are used for all provider types.

Table 20 describes each field of the current RAPS file layout.

- The shaded fields in the table represent where the RAPS Return File provides new information after data processes through RAPS.

There are two diagnosis cluster error fields because MA organizations can receive up to two errors on any diagnosis cluster.

Table 20. RAPS File Layout

RAPS RECORD AAA – FILE HEADER				
FIELD NO	POSITION	SUBMISSION STATUS	FIELD NAME	EXPLANATION
1	1-3	Required	Record ID	File-level information that identifies the submitter. This field should always be populated with “AAA.”
2	4-9	Required	Submitter ID	Identifies the submitter and should be populated with the six-digit alphanumeric SH# assigned by CSSC.
3	10-19	Required	File ID	10-digit alphanumeric character identifying the specific file submitted. This file name may not be repeated within a 12-month period.
4	20-27	Required	Transaction Date	Specifies the date that the file was submitted to Palmetto and formatted as CCYYMMDD.
5	28-31	Required	Production Test Indicator	Must be populated with “PROD” or “TEST.” Submission test data proceeds through the entire process.
6	32-512	Spaces	Filler	Must be populated with 481 spaces. The “Filler” field allows for additional fields in the future.

RAPS RECORD BBB – BATCH HEADER				
FIELD NO	POSITION	SUBMISSION STATUS	FIELD NAME	EXPLANATION
1	1-3	Required	Record ID	Batch-level information that identifies the MA organization is populated with “BBB.”
2	4-10	Required	Sequence Number	This field identifies the batch submitted. The first batch in a file must begin with 0000001. All successive batch sequence numbers in the file must be incremented by one. This is a numeric field.
3	11-15	Required	Plan Number	Identifies the MA organization and should be populated with the five-digit

RAPS RECORD BBB – BATCH HEADER				
FIELD NO	POSITION	SUBMISSION STATUS	FIELD NAME	EXPLANATION
				alphanumeric contract assigned by CMS. (H#, R#, etc.).
4	16-512	Spaces	Filler	Must be populated with 497 spaces. The “Filler” field allows for additional fields in the future.

Table 20. RAPS File Layout (Continued)

RAPS RECORD CCC – DETAIL LEVEL				
FIELD NO	POSITION	SUBMISSION STATUS	FIELD NAME	EXPLANATION
1	1-3	Required	Record ID	Detail-level information that identifies the beneficiary information. This field should always be populated with “CCC.”
2	4-10	Required	Sequence Number	This field identifies the detail record submitted. The first detail record in a batch must begin with 0000001. All successive detail sequence numbers in the batch must be incremented by one. This is a numeric field. Limited to 1,000,000 per day.
3	11-13	RAPS RETURN	Sequence Number Error Code	This field must be submitted with spaces. Upon return, this field is populated with an error code if RAPS finds an error in the sequence number, or will remain blank if no errors were detected in the sequence number.
4	14-53	Optional	Patient Control Number	This optional field may be used by the MA organization to identify the claim submitted. The field allows up to 40 alphanumeric characters.
5	54-78	Required	HIC	The Health Insurance Claim number for the beneficiary. This is a 25-digit alphanumeric field. Enter spaces, not zeros, in unused spaces.
6	79-81	RAPS RETURN	HIC Error Code	This should be submitted with spaces. Upon return, this field is populated with an error code if RAPS finds an error in the HIC number, or remains blank if no errors were detected in the HIC number.
7	82-89	Optional	Patient DOB	This optional field may be populated with the patient’s date of birth and is used to verify that the correct beneficiary identification was submitted. If the field is populated, it must be formatted as CCYYMMDD, and CMS edits this field against the information on file at the MBD. If no DOB is submitted, fill with spaces.
8	90-92	RAPS RETURN	DOB Error Code	This field must be submitted with spaces. Upon return, this field is populated with an error code if RAPS finds an error with DOB, or remains blank if no errors were detected in the DOB.

Table 20. RAPS File Layout (Continued)

RAPS RECORD CCC – DETAIL LEVEL (CONTINUED)				
FIELD NO	POSITION	SUBMISSION STATUS	FIELD NAME	EXPLANATION
9	93-412	DIAGNOSIS-CLUSTER (10 occurrences)		The following 8 fields (9.0-9.7) may be repeated 10 times in the same “CCC” record with one diagnosis per cluster. Each diagnosis cluster must contain 32 characters or spaces. Plans must not skip clusters when submitting active diagnosis codes. If there are less than 10 diagnosis clusters the remaining clusters are space filled. If there are more than 10 diagnoses, a new “CCC” record must be established.
9.0		Required	Provider Type	This 2-digit alphanumeric field identifies the site of service provided (01,02,10,20).
9.1		Required	From Date	For hospital inpatient this describes the admission date. For physician and hospital outpatient this describes the date of service. Must be formatted as CCYYMMDD.
9.2		Required	Through Date	For hospital inpatient this describes the discharge date. For physician and hospital outpatient this may be left blank and the system will fill with the “From Date.” Must be formatted as CCYYMMDD.
9.3		Conditional	Delete Indicator	This field allows the MA organization to delete a diagnosis, for correction purposes, that has been stored in the RAPS database. Enter a “D” or space.
9.4		Required <i>when ICD-9-CM is used</i>	Diagnosis Code <i>or Filler</i>	This field is populated with the three-to five-digit ICD-9-CM diagnosis code. The decimal is implied and should not be included (e.g., 42732). <i>Fill with spaces when ICD-9-CM is not used. Left justify.</i>
9.5		Required <i>when ICD-10-CM is used</i>	Diagnosis Code <i>or Filler</i>	<i>This field is populated with the three-to seven-digit ICD-10-CM diagnosis code. The decimal is implied and should not be included (e.g., 4273432). Fill with spaces when ICD-10-CM is not used. Left justify</i>
9.6		RAPS RETURN	Diagnosis Cluster Error 1	This field must be submitted with spaces. Upon return, this field is populated with one error code if RAPS finds an error in the diagnosis cluster, or remains blank if no errors were detected in the diagnosis cluster.
9.7		RAPS RETURN	Diagnosis Cluster Error 2	This field must be submitted with spaces. Upon return, this field is populated with one error code if RAPS finds an error in the diagnosis cluster, or remains blank if no errors were detected in the diagnosis cluster.
19	413-437	RAPS RETURN	Corrected HIC number	This field must be submitted with spaces. If the MA organization has submitted an outdated HIC, upon return, this field is populated with the most current HIC number and the “HIC Error” field contains an information error code.

RAPS RECORD CCC – DETAIL LEVEL (CONTINUED)				
FIELD NO	POSITION	SUBMISSION STATUS	FIELD NAME	EXPLANATION
20	438-512	Spaces	Filler	Must be populated with 75 spaces. The “Filler” field allows for additional fields in the future.

Table 20. RAPS File Layout (Continued)

RAPS RECORD YYY – BATCH TRAILER				
FIELD NO	POSITION	SUBMISSION STATUS	FIELD NAME	EXPLANATION
1	1-3	Required	Record ID	Batch trailer information should be populated with “YYY.”
2	4-10	Required	Sequence Number	A 7-digit numeric character identifying the batch submitted. Must match the “BBB” record.
3	11-15	Required	“H” Number	“H” number assigned by CMS to identify the MA organization. Must match the “H” number in the corresponding “BBB” record (i.e., the “BBB” record with the same sequence number).
4	16-22	Required	CCC Record Total	This field should total the number of CCC records in the batch. This field is numeric and should be filled with leading zeroes (e.g., 0000001). Limited to 1,000,000 per day.
5	23-512	Spaces	Filler	Must be populated with 490 spaces. The “Filler” field allows for additional fields in the future.

RAPS RECORD ZZZ – FILE TRAILER				
FIELD NO	POSITION	SUBMISSION STATUS	FIELD NAME	EXPLANATION
1	1-3	Required	Record ID	File Trailer Information should be populated with “ZZZ.”
2	4-9	Required	Submitter ID	Identifies the submitter and must match the 6-digit alphanumeric SH# in the AAA record.
3	10-19	Required	File ID	10-digit alphanumeric character identifying the specific file submitted. Must match the File ID in the “AAA” record.
4	20-26	Required	BBB Record Total	This field should total the number of batches in the file. This field is

RAPS RECORD ZZZ – FILE TRAILER				
FIELD NO	POSITIO N	SUBMISSION STATUS	FIELD NAME	EXPLANATION
				numeric and should be filled with leading zeros (e.g., 0000001).
5	27-512	Required	Filler	Must be populated with 486 spaces. The “Filler” field allows for additional fields in the future.

Data must be submitted as described in the tables above. When data is entered improperly, the plan receives errors as the data is processed through FERAS or RAPS. If errors are discovered in FERAS, the file will be returned to the plan. Job aids with list of FERAS and RAPS error codes are available at <http://www.csscooperations.com>. Once at the web site, select “Training Information,” then select the latest “Risk Adjustment Training Information” link, and then select “Job Aides.”

120.2.3 - Diagnosis Cluster

(Rev. 118; Effective: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010); Implementation: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010))

The diagnosis cluster contains the core information regarding each diagnosis submitted by an MA organization. The following components are included in the cluster:

- Provider Type
- From Date
- Through Date
- Delete Indicator
- Diagnosis Code

A maximum of 10 diagnosis clusters are allowed per CCC record. Each cluster must include the items identified above. If any of these attributes are submitted more than once for the same HIC number, a duplicate diagnosis cluster error will occur.

ICD-9-CM Diagnosis Codes - International Classification of Diseases-9th Edition-Clinical Modification (ICD-9-CM) codes are 3- to 5-digit codes used to describe the clinical reason for a patient’s treatment *for inpatient discharges before the ICD-10 implementation date and for outpatient and physician services before that date*. Diagnosis codes describe the patient’s medical condition, not the service performed. Diagnosis codes drive the risk scores, which drive the risk adjusted reimbursement from CMS to MA organizations.

ICD-10-CM will be used for inpatient discharges and for outpatient and physician services on or after the ICD-10 implementation date. ICD-10-CM codes are 3-7 digit codes.

Service From and Through Dates – Defines the start and end dates for a provided service. The correct submission format for the “From” and “Through” dates of service is CCYYMMDD. The “Through Date” defines the data used in the data collection year for risk adjustment purposes. Table 21 describes the “From” and “Through” dates.

Table 21. From and Through Dates

PROVIDER TYPE	FROM DATE	THROUGH DATE
Hospital Inpatient	Admission Date	Must have a through date and must be the discharge date
Hospital Outpatient	Exact date of patient visit or the first date service began for a series of services	Exact date of patient visit or the last date of service for a series of services
Physician		

Hospital Inpatient dates of service must reflect the final bill. Interim bills are not acceptable for risk adjustment data.

MA organizations may submit several occurrences of the same diagnosis in one cluster with a 31-date span. The “From” date will reflect the first occurrence and the “Through” date will reflect the final occurrence within the 31 days.

Delete Indicator – To delete a diagnosis, for correction purposes, that has been stored in the RAPS database, a “D” is entered. If not correcting a diagnosis, then a space is entered.

Provider Type – For risk adjustment purposes, MA organizations are responsible for collecting data from the acceptable data sources (hospital inpatient, hospital outpatient, and physician) and determining the provider type based on the source of data.

Type of Bill (TOB), which is coded on *the encounter record* during the collection of hospital data, may be used to assist in translating the correct provider type.

Table 22 lists the acceptable sources of data, provider types, provider type codes, TOB.

Table 22. Provider Type and Code

Source of Data	Provider Type	Provider Type Code	Type of Bill
Hospital Inpatient	Hospital Inpatient Principle Diagnosis	01	111 or 11Z
Hospital Inpatient	Hospital Inpatient Other Diagnosis	02	111 or 11Z
Hospital Outpatient	Hospital Outpatient	10	131, 13Z, 141 or 14Z
Physician	Physician	20	N/A

120.2.4 - Valid Diagnosis Codes

(Rev. 118; Effective: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010); Implementation: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010))

Valid diagnosis codes are those that are published for the fiscal years pertaining to the CMS-HCC risk adjustment model in use for a particular payment year. Current model diagnosis codes are codes that CMS accepts as valid, and are also included in the current version of the CMS-HCC model; only these diagnosis codes affect the risk score in a particular payment year. Future model diagnosis codes are codes that are currently valid, but are not included in the current version of the CMS-HCC model and, therefore, do not count toward the risk score.

A current model diagnosis code must meet the following criteria:

1. The diagnosis is included in the CMS-Hierarchical Condition Category (CMS-HCC), Prescription Drug (CMS-RxHCC) or End Stage Renal Disease (CMS-HCC ESRD) risk adjustment models.
2. The diagnosis must be received from one of the three provider types (hospital inpatient, hospital outpatient, and physician) covered by the risk adjustment requirements.
3. The diagnosis must be collected according to the risk adjustment data collection instructions.

A list of current and future *diagnosis* codes for the CMS-HCC, ESRD, and RxHCC risk adjustment models for any given payment year includes published National Center for Health Statistics (NCHS)/CMS codes that are valid for the payment year. The list is posted on the CMS website at:

http://www.cms.hhs.gov/MedicareAdvtgSpecRateStats/06_Risk_adjustment.asp#TopOfPage

Figure 3 provides a snapshot of the required diagnoses for a given payment year.

Figure 3. Example of Required Current and Future Model Diagnoses

Revised September 30, 2008

ICD-9-CM Codes, CMS-HCC and RxHCC models

ICD-9-CM Code	ICD9_ Description	Diagnosis Code Effective Date	CMS-HCC Model Category	RxHCC Model Category	CMS-HCC Model	CMS-HCC Model	CMS-HCC Model	CMS-HCC Model	CMS-HCC Model	CMS-HCC Model	RxHCC Model	RxHCC Model	RxHCC Model	RxHCC Model
					Year 2004 Payment	Year 2005 Payment	Year 2006 Payment	Year 2007 Payment	Year 2008 Payment	Year 2009 Payment	Year 2006 Payment	Year 2007 Payment	Year 2008 Payment	Year 2005 Payment
0031	Salmonella Septicemia	1/1/1991	2		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
00322	Salmonella Pneumonia	1/1/1991	112		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
00323	Salmonella Arthritis	1/1/1991	37	39	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
00324	Salmonella Osteomyelitis	1/1/1991	37	39	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
0064	Amebic Lung Abscess	1/1/1991	112	112	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
0066	Amebic Skin Ulceration	1/1/1991		159	No	No	No	No	No	No	Yes	Yes	Yes	Yes
0074	Cryptosporidiosis	10/1/1998	5	2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
0201	Cellulocutaneous Plague	1/1/1991		159	No	No	No	No	No	No	Yes	Yes	Yes	Yes
0202	Septicemic Plague	1/1/1991	2		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
0203	Primary Pneumonic Plague	1/1/1991	112		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
0204	Secondary Pneumonic Plague	1/1/1991	112		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
0205	Pneumonic Plague Nos	1/1/1991	112		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
0212	Pulmonary Tularemia	1/1/1991	112		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
0220	Cutaneous Anthrax	1/1/1991		159	No	No	No	No	No	No	Yes	Yes	Yes	Yes
0221	Pulmonary Anthrax	1/1/1991	112		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
0223	Anthrax Septicemia	1/1/1991	2		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
0310	Pulmonary Mycobacteria	1/1/1991	5	2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
0311	Cutaneous Mycobacteria	1/1/1991		159	No	No	No	No	No	No	Yes	Yes	Yes	Yes
0312	Dmac Bacteremia	10/1/1998	5	2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
03283	Diphtheric Peritonitis	1/1/1991	31		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No

ICD-9-CM Codes, Future models only

ICD-9-CM Code	ICD9_ Description	Diagnosis Code Effective Date
003	OTH SALMONELLA INFECTION*	1/1/1991
0030	SALMONELLA ENTERITIS	1/1/1991
0032	LOCAL SALMONELLA INFECT*	1/1/1991
00320	LOCAL SALMONELLA INF NOS	1/1/1991
00321	SALMONELLA MENINGITIS	1/1/1991
00329	LOCAL SALMONELLA INF NEC	1/1/1991
0038	SALMONELLA INFECTION NEC	1/1/1991
0039	SALMONELLA INFECTION NOS	1/1/1991
004	SHIGELLOSIS*	1/1/1991
0040	SHIGELLA DYSENTERIAE	1/1/1991
0041	SHIGELLA FLEXNERI	1/1/1991
0042	SHIGELLA BOYDII	1/1/1991
0043	SHIGELLA SONNEI	1/1/1991
0048	SHIGELLA INFECTION NEC	1/1/1991
0049	SHIGELLOSIS NOS	1/1/1991
0065	AMEBIC BRAIN ABSCESS	1/1/1991
008	INTESTINAL INFECTION NEC*	1/1/1991
0080	E. COLI ENTERITIS*	1/1/1991
00800	INTEST INFEC E COLI NOS	1/1/1991

**120.2.5 - Tips for Reducing Duplicate Diagnosis Cluster Errors
(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)**

As part of the requirement that plans submit accurate risk adjustment data, CMS requires that plans work to minimize the submission of duplicate diagnosis clusters. CMS considers a plan submission that contains 5% or greater duplicate diagnosis clusters to be a high level of duplicate submissions and to be in violation of the requirement to submit accurate data.

Failure to submit accurate and timely risk adjustment production files may result in: 1) incorrect payments to your MA organization; 2) loss of monthly prospective revenue relating to beneficiary-health status; 3) payment recovery through a lump-sum recovery; 4) cessation of monthly payments throughout the remainder of a coverage year; and/or 5) adjusting payments in a subsequent year. Non-compliance with these requirements may result in CMS restricting future risk adjustment submissions by your MA organization.

Table 23, below, provides tips to assist plan sponsors in tracking diagnosis clusters so that they can be compliant with the guidance on the 5 percent benchmark for duplicate diagnosis cluster errors. CMS communicates to submitters a 502-error code for each diagnosis cluster that shares the same attributes as one previously submitted and stored in the RAPS database. CMS reviews files weekly and identifies diagnosis clusters; each 502-error code counts toward the 5 percent benchmark. If the submitter is a third party and the file contains records for multiple plans, the review will occur at the plan level within the file.

Table 23. Tips for Ensuring Compliance with the 5 Percent Benchmark for Duplicate Diagnosis Cluster Error Guidance

Tips	Description
Identify a Duplicate Diagnosis Cluster	CMS defines a Duplicate Diagnosis Cluster as one that shares all of the same attributes (HIC Number, Provider Type, From and Through Dates and Diagnosis) as one previously submitted and stored in the RAPS database.
Review Reports	Review current and previous RAPS Return Files to determine which clusters RAPS stored. If RAPS stored the cluster, MA organizations should not resubmit.
Understand Error Resolution	<p>300-Level Errors Resubmit all clusters associated with the record, this would not create a duplicate diagnosis because none of the records were previously stored.</p> <p>400-Level Errors Only resubmit the specific cluster that resulted in the 400-level error</p>

	message. Do not resubmit all clusters within the record, only the clusters that contain errors.
Understanding Modifying Data	<p>MA organizations should only resubmit the diagnosis clusters that require a modification.</p> <p>For example, an MA organization submits eight clusters, and the following week the organization notices the date of service submitted was incorrect in one of the clusters, the organization must submit that specific cluster with a “D” in the delete indicator field, and submit a new cluster with the correct date.</p> <p>Resubmitting all of the remaining seven clusters would create seven duplicates.</p>

120.2.6 - Health Insurance Portability and Accountability Act (HIPAA)
(Rev. 118; Effective: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010); Implementation: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010))

Effective October 16, 2003, when HIPAA transaction standards became mandatory, all electronic claims/encounters sent from providers/physicians to MA organizations (health plans) constitute a HIPAA covered transaction. Any MA organization that receives an electronic claim/encounter from a provider/physician must use the *current applicable ASC X12 837* format.

MA organizations cannot request that a physician resubmit data previously submitted (same patient, same diagnosis) using a different format (e.g., HCFA 1500) if the physician initially submits data in *ASC X12 professional* format for purposes of risk adjustment data collection.

In accordance with Final Rule 45 CFR Part 152, effective March 17, 2009, CMS adopted X12 Version 5010 for HIPAA transactions. The final rule mandates covered entities MA organizations (health plans) comply no later than January 1, 2012.

120.2.7 - Submission Timeline
(Rev. 114, Issued; 06-07-13, Effective: 06-07-13, Implementation: 06-07-13)

MA organizations must submit data at least quarterly to CMS. Each quarterly submission should represent approximately one-fourth of the data that the MA organization will submit during a data collection year. MA organizations will be monitored to ensure compliance. Table 24 provides the submission schedule for all diagnosis data submitted

for all risk adjustment models. This includes data for both the Part C CMS-HCC and ESRD models and the Part D Drug risk adjuster.

Table 24. Risk Adjustment Implementation Calendar

CY	Dates of Service	Initial Submission Deadline	First Payment Date	Final Submission Deadline
2009	01/01/08 - 12/31/08	03/06/09	07/01/09	01/31/10
2010	07/01/08 - 06/30/09	09/04/09	01/01/10	N/A
2010	01/01/09 - 12/31/09	3/05/10	07/01/10	01/31/11
2011	07/01/09 - 06/30/10	09/03/10	01/01/11	N/A
2011	01/01/10 - 12/31/10	03/04/11	07/01/11	01/31/12

120.2.8 - Status Reports of Risk Adjustment Submissions

(Rev. 114, Issued; 06-07-13, Effective: 06-07-13, Implementation: 06-07-13)

CMS communicates the status of risk adjustment submissions via reports delivered to submitters' mailbox. The reports remain in the submitters' mailbox for 14 days. MA organizations may access reports through CSSC. Table 25 provides an overview of the Risk Adjustment reports received from the Front End Risk Adjustment System (FERAS) and the Risk Adjustment Processing System (RAPS).

Table 25. Reports Overview

Report	Description	Frequency
FERAS Response Report	<ul style="list-style-type: none"> Indicates file is accepted or rejected Identifies reasons for rejection Report layout format 	<p>Same business day for Secure Website and FTP users</p> <p>Next business day for Connect:Direct and Gentrans users</p>
RAPS Return File	<ul style="list-style-type: none"> Contains the entire submitted transaction Identifies 300-, 400-, and 500-level errors Flat file layout 	Next business day after submission
RAPS Transaction Error Report	<ul style="list-style-type: none"> Communicates errors found in CCC records during processing 	Next business day after submission

	<ul style="list-style-type: none"> • Displays only 300-, 400-, and 500-level error codes • Report layout 	
RAPS Transaction Summary Report	<ul style="list-style-type: none"> • Summarizes the disposition of diagnosis clusters • Report layout 	Next business day after submission
RAPS Duplicate Diagnosis Cluster Report	<ul style="list-style-type: none"> • Identifies diagnosis clusters with 502-error message • Clusters accepted, but not stored • Report layout 	Next business day after submission
RAPS Monthly Plan Activity Report	<ul style="list-style-type: none"> • Provides monthly summary of the status of submissions by submitter ID and Plan Number • Report layout 	Available for download the second business day of the month
RAPS Cumulative Plan Activity Report	<ul style="list-style-type: none"> • Provides cumulative summary of the status of submissions by submitter ID and Plan Number • Report layout 	Available for download the second business day of the month
RAPS Monthly Error Frequency Reports	<ul style="list-style-type: none"> • Provides a monthly summary of all errors associated with files submitted in test and production • Report layout 	Available for download the second business day of the month
RAPS Quarterly Error Frequency Reports	<ul style="list-style-type: none"> • Provides a quarterly summary of all errors on all file submissions within the 3-month quarter • Report layout 	Available for download the second business day of the month following each quarter

Examples of risk adjustment reports are available in the Edits and Reports module of the Risk Adjustment Training Participant Guide at <http://www.csscooperations.com>. Once at the web site, select “Training Information,” then select that latest “Risk Adjustment Training Information” link, and then select “Participant Guides.”

120.3 - Risk Score Verification Tools

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

MA organizations can use a variety of tools to ensure that the risk score reported by CMS is in close alignment with the score that the organization expects to receive. Table 26 identifies the tools, method of access, and availability. Sections 120.3.1 through 120.3.3 provide information on how an organization can use the tool to increase the accuracy of payment projections.

Table 26. Risk Score Verification Tools

Report Name	Access	Availability
RAPS Return File/RAPS Transaction Error Report	RAPS Mailbox RPT####.RPT.RAPS_RETURN_FLAT RPT####.RPT.RAPS_RETURN_FLAT (zip)	Next business day following data submission

	format) RPT#####.RPT.RAPS_ERROR_RPT RPT#####.RPT.RAPS_ERROR_RPT (zip format)	
RAPS Monthly and Cumulative Plan Activity Reports	RAPS Mailbox RPT#####.RPT.RAPS_MONTHLY RPT#####.RPT.RAPS_MONTHLY (zip format) RPT#####.RPT.RAPS_CUMULATIVE RPT#####.RPT.RAPS_CUMULATIVE (zip format)	Second business day of the month
Monthly Membership Report (MMR) <ul style="list-style-type: none"> • MMR Non-Drug • Drug Reports 	Through MARx	Monthly
Model Output Report (MOR) <ul style="list-style-type: none"> • Part C HCC MOR • RAS RxHCC MOR 	Through MARx	Monthly
Risk Adjustment SAS Programs	http://www.cms.hhs.gov/MedicareAdvtgSpecRateStats Medicare Rates & Statistics – Risk Adjustment Downloads for CMS-HCC, ESRD, RxHCC	2006-present

120.3.1 - RAPS Reports

(Rev. 114, Issued; 06-07-13, Effective: 06-07-13, Implementation: 06-07-13)

MA organizations can use the RAPS Transaction and Management Reports Return to verify the diagnostic data stored in the model. Table 27 describes the RAPS Reports used as verification tools.

Table 27. RAPS Reports as Verification Tools

Report	Description
RAPS Return File	<ul style="list-style-type: none">• Contains all transactions submitted by the MA organization.• Errors identified during the RAPS process appear next to the field in which the error occurred, which indicates the diagnosis did not store.• File delivered in the same flat file format used for the RAPS input.• Unique diagnosis clusters returned without an error are stored in the RAPS database at CMS.• CMS uses the diagnosis clusters that contain relevant diagnosis codes to calculate risk adjustment factors when running the CMS-HCC model or ESRD model.• MA organizations may download the file into a Microsoft Access or Excel database since the report is a flat file.• MA organizations should establish a record of each diagnosis that was stored in the CMS-HCC model for each enrollee.• Larger organizations also use the file in mainframe databases.• Organizations that employ automated update processes for their databases typically use the Return File.
RAPS Transaction Error Report	<ul style="list-style-type: none">• Contains only the records that contain errors, causing one or more diagnosis clusters to reject.• Organizations that employ non-automated update processes when maintaining diagnosis files typically use the Transaction Error Report.• An individual at the health plan generally downloads the report, prints it, and manually updates the diagnosis records to indicate which diagnoses were rejected.
RAPS Monthly and Cumulative Plan Activity Reports	<ul style="list-style-type: none">• Confirms the total number of diagnoses stored in the CMS-HCC model.

Creating a database with the diagnoses will serve several purposes:

The MA organization will have a history of all diagnosis clusters submitted and stored, which can be used to prevent future submissions of duplicate diagnosis clusters.

The MA organization will have the data required to determine which diagnoses were stored for each beneficiary for the payment period.

MA organizations can compare their internal database developed from the RAPS Return File to the number of diagnoses stored on the Monthly and Cumulative reports. The cumulative report reflects the total number of diagnoses stored to date for the contract number (e.g., H number). The database should reflect all diagnosis clusters stored for the plan sponsor for the data collection period.

120.3.2 - MARx Reports

(Rev. 114, Issued; 06-07-13, Effective: 06- 07-13, Implementation: 06-07-13)

MARx generates several monthly reports that provide information for verifying diagnostic and demographic data used in the payment model calculations. Table 28 describes the Monthly Membership Report (MMR).

Table 28. Monthly Membership Report

Description
<ul style="list-style-type: none"> • Provides information to reconcile the Medicare membership and payment record to the records maintained by CMS. • Available in two formats – report and data file, both containing drug and non-drug data. • The report and data file formats provide summary and detail-level information on beneficiaries belonging to the MA organization. • Summary <ul style="list-style-type: none"> ○ Payments and adjustments applicable to the organization’s Medicare membership, shows total number of payments for beneficiaries receiving hospice, ESRD or institutionalized status. • Detail <ul style="list-style-type: none"> ○ Detailed list of beneficiaries for who payment was made for a month (prospective for that month or an adjustment payment for a previous month). ○ Allows for comparison of organization’s beneficiary records with CMS’ records. • Non-Drug MMR <ul style="list-style-type: none"> ○ Contains information such as rebates, payments and adjustments, Part A and Part B information, risk adjustment factors for Part A and Part B, and other detailed beneficiary information. • Drug MMR <ul style="list-style-type: none"> ○ Contains information such as basic premiums, estimated reinsurance, payments and adjustments, low-income cost sharing percentage, low-income cost sharing subsidy, risk adjustment factors, and other detailed beneficiary information.

Figures 4 and 5 highlight the location of key information on the formatted MMRs for reconciling reports with enrollee information.

At the top of the report, the name of the report appears along with whether the report is for drug or non-drug data. The plan number, Plan Benefit Package (PBP), and Segment along with the plan name appear under the report name.

At the top left of the report is the group number and contract number. The run date appears as year/month/date with the payment month in the top left of the report. The page number is to the right.

There are two lines of information for each beneficiary in the detail report and that information is staggered. For example, the HICN appears on one line and beneath that line appears the surname of the beneficiary.

The MMR for Non-Drugs reports on flags for Health Status and the Drug reports on the LIS or LTI multiplier for calculation in the beneficiary risk factor.

If a beneficiary has one of the flags for a Health Status, which is sometimes called “special status,” this is identified with a “Y” on the report.

Figure 4. Sample Drug MMR – Key Fields

Group #, Contract #, and Payment Month				Report Name, Plan #, PB, Segment, and Plan Name										Drug		
***GROUP=H9999, CONTRACT=H9999 RUN DATE:20051028 PAYMENT MONTH: 200601				MONTHLY MEMBERSHIP REPORT - DRUG PLAN(H9999) PB(001) SEGMENT(000) CENTER INSURANCE BASIC PREMIUM * ESTIMATED REINSURANCE PART D \$10.60 * \$0.00										PAGE: 1		
CLAIM NUMBER	S E X	A G E	S T A T E	P P S		A A E O I		A D J R A F C T R		D A T E S		P A Y M E N T S / A D J U S T M E N T S		L O W - I N C O M E C O S T		
				O R R G U I N		O T T H R N S		M T H S		D I R E C T S U B S I D Y		P A C E		P A C E C O S T		
	S U R N A M E	F	D M G	B I R T H	A A B P C		D		P A Y M E N T A M T		P R E M I U M A D D - O N		S H A R I N G A D D - O N		T O T A L P A Y M E N T	
000000000A	F	5959	33700					1.9770	200601	200601	000			\$0.00	\$0.00	\$129.17
DOE J		5959	XXXXXXXX						\$129.17			\$0.00		\$0.00		
333333333A	F	8084	10050					1.0300	200601	200601	000			\$0.00	\$0.00	\$62.22
BLUE S		8084	XXXXXXXX						\$62.22			\$0.00		\$0.00		
123456789A	F	5959	39620					1.2870	200601	200601	000			\$0.00	\$0.00	\$80.39
BROWN L		5959	XXXXXXXX						\$80.39			\$0.00		\$0.00		

Beneficiary Name, Sex, Age Group, State & County

LIS/LTI Multipliers

Risk Adjustment Factor, Direct Subsidy, and LICS

The information for L. Brown is reported as the following on the sample Drug MMR:

- Female
- between the ages of 55-59
- has a birth date of XXXXXXXXX
- Part D RA Factor of 1.2870
- Direct subsidy payment amount of \$80.39
- Total payment of \$80.39

Figure 5. Sample Non-Drug MMR - Key Fields

***GROUP=H9999, CONTRACT=H9999
 RUN DATE:20051018
 PAYMENT MONTH:200601

MONTHLY MEMBERSHIP REPORT - NON DRUG
 PLAN(H9999) RRR(001) SEGMENT(000) CENTER INSURANCE
 REBATES
 PAGE: 1

BASIC PREMIUM		COST SHR REDUC	MAND SUPP BENEFIT	PART D SUPP BENEFIT	PART B BAS PRM REDUC	PART D BAS PRM REDUC
PART A	\$0.00	\$0.00	\$0.00	\$0.00	\$10.25	\$0.00
PART B	\$0.00	\$0.00	\$0.00	\$0.00	\$14.75	\$0.00

CLAIM NUMBER	AGE	STATE	GRP	CNTY	PP	AA	HE	IF	CR	OD	EA	DB	START	END	FCTR-A	FCTR-B	PART A	PART B	TOTAL PAYMENT
000000000A	F	5959	33700										200601	200601	1.0280	1.0280	\$2733.53	\$3900.59	\$6634.12
000000000A	F	8084	10050										200505	200705	2.963	2.963	\$209.41	\$186.29	\$395.70

Non-Drug

Risk Adjustment Factors and Factor Type Code

Health Status

Adjustment Reason Code

Part A, B, and Total Payments

The information for J. Doe is reported as the following on the sample Non-Drug MMR:

- o Female
- o between the ages of 55-59
- o has a birth date of XXXXXXXXX
- o has "Y" for ESRD (special status)
- o Part A and Part B RA Factors of 1.0280
- o Factor Type Code of D (for dialysis)
- o Part A payment amount of \$2733.53
- o Part B payment amount of \$3900.50
- o Total payment of \$6634.12

Table 29 describes the Model Output Report (MOR) and Figure 6 highlights the location of key information on the formatted MOR

Table 29. Model Output Report

Description
<ul style="list-style-type: none"> • Used in conjunction with the MMR and beneficiary-specific information (residence-community vs. institution, Medicaid status, disability, etc.) to verify risk scores. • Part C Risk Adjustment MOR <ul style="list-style-type: none"> ○ Displays HCCs used by RAS to calculate risk adjustment factors for each beneficiary. ○ Displays the HCC Disease Groups used by the CMS-HCC model and disease and demographic interactions. ○ Provides detailed beneficiary level information on: <ul style="list-style-type: none"> • Enrollee identifiers (HICs, name, date of birth). • Appropriate sex and age group, as well as other demographic factors for an individual (if applicable). • Provides detailed information on the specific disease groups and disease interactions triggered for an enrollee. • Disease hierarchies are not identified separately. If a hierarchy exists, only the most severe manifestation in the hierarchy is displayed on the report. <p>For organization receiving frailty payments: Organizations receiving frailty adjustment should review their overall risk score, which represents the output of the CMS-HCC model and the frailty score. Beneficiaries under the age of 55 and beneficiaries who have an institutional factor do not receive frailty scores. Organizations receiving frailty adjustment can find their contract-level frailty score on HPMS. A final reconciliation of HCCs may prove to be a useful analysis for plan sponsors.</p> <ul style="list-style-type: none"> • RAS RxHCC MOR <ul style="list-style-type: none"> • Displays the RxHCCs for each beneficiary used by RAS to calculate risk adjustment factors for each beneficiary. • RxHCCs can be used by plans to verify a beneficiary’s risk score provided on the MMR. • Summing the risk factors for an individual beneficiary yields a total risk adjustment score.

Figure 6. Sample Model Output Report

1***GROUP=H8888,CONTRACT=H8888,					
1RUN DATE: 20031219 RISK ADJUSTMENT MODEL OUTPUT REPORT					
PAGE: 1					
PAYMENT MONTH: 200401			PLAN: H8888 CHAMPION INSURANCE		
RAPMORP1					
0	LAST	FIRST		DATE OF	
HIC	NAME	NAME	I	BIRTH	SEX & AGE GROUP
123456789A	WOOD	CHARLES		W	XXXXXXXX Male75-79
123456789B	TREE	LILLIAN		L	XXXXXXXX Female75-79
111223333A	GRASS	ALBERT	A	XXXXXXXXX Male 60-64	
HCC DISEASE GROUPS:					
HCC019 Diabetes without Complication			}	Three HCCs triggered for this	
HCC080 Congestive Heart Failure					
HCC092 Specified Heart Arrhythmias					
INTERACTIONS: INTI01 DM_CHF			}	One interactive HCC triggered for this	

Beneficiaries Charles W. Wood and Lillian L. Tree, listed on this sample MOR did not trigger HCCs since the previous model run. However, CMS accounts for the beneficiaries' age and sex in the total risk score reported on the MMR.

Beneficiary Albert A. Grass, has triggered three HCCs and one interaction. CMS will reflect the rate for these HCCs in the beneficiary's risk score, communicated on the MMR.

The flat file layouts and sample formatted MMR and MOR reports are located in the Medicare Advantage and Prescription Drug Plans - Plan Communications User Guide Appendices at:
http://www.cms.gov/MAPDHelpDesk/02_Plan_Communications_User_Guide.asp#TopOfPage.

120.3.3 - Risk Adjustment Model Software
(Rev. 114, Issued; 06-07-13, Effective: 06-07-13, Implementation: 06-07-13)

CMS provides a SAS software program for each of the CMS-HCC risk adjustment models that allows organizations to verify and predict risk scores. Users must have a SAS license to use the SAS program.

MA organizations may access the risk adjustment Risk Model software at:
http://www.cms.gov/MedicareAdvtgSpecRateStats/06_Risk_adjustment.asp#TopOfPage.

The software includes an HCCSOFT SAS program that uses several SAS Macros to create HCC, RxHCC, and ESRD HCC risk score variables using coefficients from the following regression models:

- Community
- Institutional

- New enrollee

The HCCSOFT software supplies user parameters to the main SAS Macro program MACROSOFT. This macro program takes user-provided files and assigns HCCs or RxHCCs for each beneficiary. The program follows five major steps when calculating risk scores:

1. Assigns each beneficiary to an appropriate age/sex grouping, and adds in the interactions for Medicaid, disabled, and previously disabled
2. Crosswalks diagnoses to Condition Categories using SAS formats that were previously stored in the FORMAT library
3. Creates HCCs by imposing hierarchies on the Condition Categories
4. Creates the interactions
5. Computes three scores for each beneficiary: community, institutional, and new enrollee

Note: For beneficiaries without relevant diagnoses from RAPS or FFS claims data, zeros are assigned to all HCCs and RxHCCs.

130 - Glossary of Terms

(Rev. 118; Effective: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010); Implementation: ICD-10: Upon Implementation of ICD-10, ASC X12: January 1, 2012 (for ASC X12 5010))

Beneficiary Demographic Input File - Contains beneficiary demographic data captured from Common Medicare Environment. The demographic data is used by the Risk Adjustment System (RAS) to calculate a beneficiary's risk score and to determine payment.

Beneficiary Diagnosis Input File - Contains beneficiary diagnosis data captured from Risk Adjustment Processing System (RAPS) and National Medicare Utilization Database (NMUD). The diagnosis data is used by the Risk Adjustment System to calculate a beneficiary's risk score and to determine payment.

Common Medicare Environment (CME) – Tables sourced from the Medicare Beneficiary Database (MBD) and the Enrollment Database (EDB) that provide beneficiary demographic and enrollment data.

Connect: Direct - A type of electronic connection between MA organizations and CMS used to submit risk adjustment data and receive information. This connection involves mainframe-to-mainframe connection with a submission response from FERAS.

Data Collection Period - The 12 month period from which CMS uses diagnoses submitted by MA organizations to calculate a beneficiary's risk score.

Data Submission - The process in which MA organizations submit required data elements to CMS for risk adjustment purposes.

Data Validation - The process of validating that enrollee diagnosis codes submitted for payment by MA organizations are supported by the medical record documentation.

Diagnosis Cluster - Core information submitted by MA organizations for each diagnoses submitted. The following are included: provider type, from date of service, through date of service, delete indicator, and diagnosis code.

Dialysis Status - CMS risk adjusts payments for a beneficiary using the CMS-HCC dialysis model when we are notified that the beneficiary is receiving dialysis.

Direct Data Entry (DDE) - An electronic data exchange between providers and health plans where health plans enter RAPS data directly into an online screen for processing.

Disabled Status - Demographic factor for beneficiaries who became eligible for Medicare based on a disability.

Disease Hierarchy - *International Classification of Diseases Clinical Modification (ICD-9-CM or ICD-10 CM as applicable)* diagnosis codes that address multiple levels of severity for a disease with varying levels of associated medical costs.

Dual Eligible - An MA eligible individual who is also entitled to Medical Assistance under a State Plan under Title XIX (Medicaid). A chart describing the various categories of individuals who are collectively known as dual-eligibles can be found at: <https://www.cms.gov/MedicareEnRpts/Downloads/Buy-InDefinitions.pdf>.

Electronic Data Interchange (EDI) Agreement - An agreement MA organizations have with CMS to follow provisions for submitting risk adjustment data through one of CMS' accepted types of electronic connections.

End Stage Renal Disease (ESRD) - Permanent kidney failure requiring dialysis or a kidney transplant.

Enrollment Database (EDB) – A data repository that contains Medicare entitlement information for beneficiaries entitled to Medicare.

File Transfer Protocol (FTP) - A type of electronic connection between MA organizations and CMS used to submit risk adjustment data and receive information. The connection uses modem-to-modem (i.e., dial up) or lease line connection with a submission response from FERAS.

Frailty Adjuster - Predicts Medicare expenditures of community populations with functional impairments that are unexplained by the risk adjustment methodology alone. The frailty adjuster is included as part of risk adjusted payments for PACE organizations and, through 2011, for certain demonstration organizations. Beginning in 2012, certain Fully Integrated Dual Eligible Special Needs Plans (FIDE SNPs) are eligible to receive frailty adjustment.

Front End Risk Adjustment (FERAS) - Performs the initial file editing for risk adjustment data submitted by Medicare Advantage and Medicare Advantage-Prescription Drug plans and transmits files to the Risk Adjustment Processing System (RAPS).

Full Risk - Medicare beneficiaries that have 12 months of Part B coverage during the data collection period.

Gentran - A type of electronic connection between MA organizations and CMS used to submit risk adjustment data and receive information. Gentran users are issued a mailbox and it is used as a vehicle to transmit and receive reports on RAPS data sent to CMS.

Health Plan Management System (HPMS) - CMS information system used by Medicare Advantage and Prescription Drug plans to upload bid, Plan Benefit Package, and marketing information, and is used by CMS to send information to plans.

Hierarchical Condition Category (HCC) - Groupings of clinically similar diagnoses in each risk adjustment model. Conditions are categorized hierarchically and the highest severity takes precedence over other conditions in a hierarchy. Each HCC is assigned a relative factor which is used to produce risk scores for Medicare beneficiaries, based on the data submitted in the data collection period.

Health Insurance Portability and Accountability Act (HIPAA) - Health Insurance Portability and Accountability Act of 1996 (HIPAA, Title II) required the Department of Health and Human Services to establish national standards for electronic health care transactions and national identifiers for providers, health plans, and employers. It also addressed the security and privacy of health data and contained health insurance reforms intended to promote access and portability of insurance coverage. The implementation of HIPAA improved the use of electronic data exchange in the national health care system.

International Classification of Diseases-9th Edition-Clinical Modification (ICD-9-CM) Codes - 3 to 5-digit codes used to describe the clinical reason for a patient's treatment. The codes do not describe the service performed, just the patient's medical condition. Diagnosis codes drive the risk scores, which drive the risk adjusted reimbursement from CMS to MA organizations. *ICD-9-CM codes are used for inpatient discharges before the implementation date of ICD-10, and for outpatient and physician services before that date.*

International Classification of Diseases-10th Edition-Clinical Modification (ICD-10-CM) Codes - 3- to 7-digit codes used to describe the clinical reason for a patient's

treatment. The codes do not describe the service performed, just the patient's medical condition. Diagnosis codes drive the risk scores, which drive the risk adjusted reimbursement from CMS to MA organizations. ICD-10-CM codes are used for inpatient discharges on and after the implementation date of ICD-10, and for outpatient and physician services on and after that date.

Long-term Institutionalized (LTI) Status - CMS identifies whether a Medicare beneficiary is in a long term institution for both model development and risk score calculation purposes. CMS considers a beneficiary as having long term institutional status if they have been in an institution for 90 days or more. CMS obtains this information from the Minimum Data Set (MDS), which stores dates of 90-day assessments reported by nursing homes.

Low-income Subsidy (LIS) - Provides financial assistance for beneficiaries who have limited income and resources; individuals eligible for this low-income subsidy will receive assistance with paying for their monthly premium, yearly deductible, prescription coinsurance and copayments and coverage in the gap.

Medicaid - Title XIX of the Social Security Act is a Federal/State entitlement program that pays for medical assistance for certain individuals and families with low incomes and resources.

Medicare Advantage Prescription Drug (MARx) System - Receives beneficiary level risk adjustment factors from RAS for use in Part C and Part D payment calculations.

Medicare Beneficiary Database (MBD) – A data repository that contains eligibility and enrollment data for Medicare beneficiaries.

Minimum Data Set (MDS) - A part of the Resident Assessment Instrument (RAI) developed by CMS to assist Medicare/Medicaid certified nursing homes in developing a comprehensive care plan for each resident.

Minimum Data Set (MDS) Long Term Institutional File - Identifies beneficiaries that resided in a long term institution for 90 days or more, which classifies them as long term institutional (LTI) beneficiaries. The file is used to identify Medicare beneficiaries that reside in LTI for risk adjustment purposes.

National Medicare Utilization Database (NMUD) - Contains Medicare claims data, including diagnostic data submitted by fee-for-service providers for beneficiaries new to Medicare Advantage with less than 12 months of risk adjustment data. The diagnostic data stored in NMUD is translated to the risk adjustment format.

National Provider Identifier (NPI) - The NPI is a 10-digit, intelligence free numeric identifier (10 digit number). Intelligence free means that the numbers do not carry information about health care providers, such as the state in which they practice or their provider type or specialization.

New Enrollee - A Medicare beneficiary who has less than 12 months of Part B entitlement during the data collection period.

Normalization Factor - Factor used to correct population and coding changes between the data years used in model calibration and the payment year.

Original Reason for Entitlement Code (OREC) - A demographic factor added to the risk score for beneficiaries 65 years of age or older who were originally entitled to Medicare due to disability. The factor varies based on the age and sex of the beneficiary.

Post-Graft (Functioning Graft) - A beneficiary is in post-graft status when they have received a kidney transplant or kidney/pancreas transplant at least three months ago and did not return to dialysis status since the transplant. There is a separate segment of the CMS-HCC ESRD model for people who have functioning kidney grafts.

Principal Inpatient Diagnostic Cost Group (PIP-DCG) - The PIP-DCG model was a precursor to the CMS-HCC risk adjustment model CMS used the PIP-DCG model from 2000-2003. In this model, CMS used diagnoses from hospitalizations to identify a particularly ill and high cost subset of beneficiaries for whom CMS will make higher payments in the next year. The system recognized admissions for which inpatient care is most frequently appropriate and which are predictive of higher future costs.

Program of All-Inclusive Care for the Elderly (PACE) - A unique capitated managed care benefit for frail and elderly individuals provided by a public entity or private entity. PACE features a comprehensive medical and social service delivery system using an interdisciplinary team approach in an adult day health center that is supplemented by in-home and referral services in accordance with participants' needs.

Reconciliation - The CMS process of updating beneficiaries' statuses and processing the resulting payment adjustments.

Risk Adjustment Processing System (RAPS) – An application that stores diagnoses data submitted by MA Organizations. Upon completion of the initial file processing, FERAS sends the risk adjustment data to RAPS to perform low level edits to the file header and record.

Risk Adjustment System (RAS) – A system used to calculate a beneficiary's risk score from enrollment and diagnosis data received from Common Medicare Environment (CME), National Medicare Utilization Database (NMUD) system and Risk Adjustment Processing System (RAPS). After the risk scores are calculated in RAS, they are sent to MARx to use in calculating beneficiary level prospective payments.

Special Needs Plan (SNP) - An MA coordinated plan that limits enrollment to special needs individuals, i.e., those who are dual-eligible, institutionalized, or have one or more

severe or disabling chronic conditions, as set forth at 42 CFR 422.4(a)(1)(iv) of the MA regulation, and provides Part D benefits under 42 CFR Part 423.

Taxonomy Code - An external non-medical data code set designed for use in classifying health care providers according to provider type or practitioner specialty in an electronic environment, specifically within the American National Standards Institute, Accredited Standards Committee health care transaction.

Transplant Status - A Medicare beneficiary is in Transplant Status for the three months commencing with a kidney transplant.

Transmittals Issued for this Chapter

Rev #	Issue Date	Subject	Impl Date	CR#
R118MCM	09/19/2014	Conversion from ICD-9 to ICD-10 and from ASC X12 Version 4010 to 5010	Upon Implementation of ICD-10	N/A
R116MCM	02/28/2014	Conversion from ICD-9 to ICD-10 and from ASC X12 Version 4010 to 5010 – Rescinded and replaced by Transmittal 118	10/01/2014	N/A
R114MCM	06/07/2013	Chapter 7 – Risk Adjustment	06/07/2013	N/A
R57MCM	08/13/2004	Coverage of Clinical Trials, Hospital Inpatient Data, Diagnostic Coding, and Collection of Data	N/A	N/A
R47MCM	02/20/2004	Miscellaneous Changes	N/A	N/A
R02MCM	10/01/2001	Miscellaneous Changes	N/A	N/A
R01MCM	07/02/2001	Initial Issuance of Chapter	N/A	N/A

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