

December  
2021

## Computer-Based Training Series

# Risk Adjustment Methodology



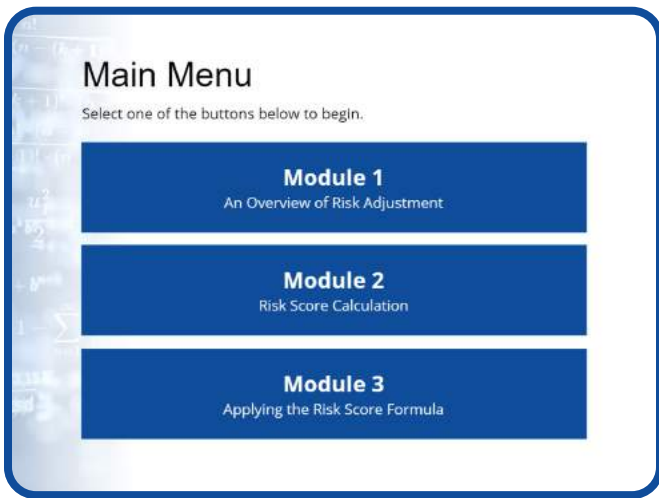


**ARE YOU OR YOUR  
ORGANIZATION INTERESTED IN  
LEARNING MORE ABOUT THE FOUNDATIONS  
AND PRINCIPLES OF RISK ADJUSTMENT?  
DO YOU NEED TO CALCULATE  
OR VALIDATE A BENEFICIARY'S  
PAYMENT RISK SCORE?**

If you've answered yes to these questions, then great news! You are in the right place; this elearning course was designed with you in mind.

Welcome to the Risk Adjustment Methodology course.

## The Modules



This course is broken down into three distinct modules:

### **Module 1** **An Overview of Risk Adjustment**

An Overview of Risk Adjustment—provides an introduction to the foundation of risk adjustment, the legislative history, and how CMS Hierarchical Condition Category (or HCC) and Prescription Drug Hierarchical Condition Category (or RxHCC) models are used for risk adjustment.

### **Module 2** **Risk Score Calculation**

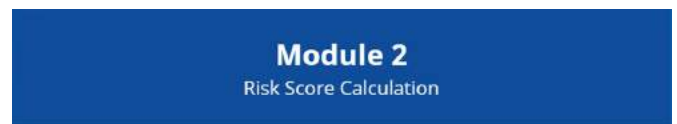
Risk Score Calculation—reviews the risk score calculation process and the resources you'll need to compute (or validate) a beneficiary's payment risk score.

### **Module 3** **Applying the Risk Score Formula**

Applying the Risk Score Formula—uses scenario-based learning to walk you through the four-step process of calculating risk scores for certain Medicare Part C and Part D beneficiaries.

## Click on Module Icon to Review

Review the modules in order by continuing to the next page OR click on the Module 1, Module 2, or Module 3 buttons below to proceed to a specific module.



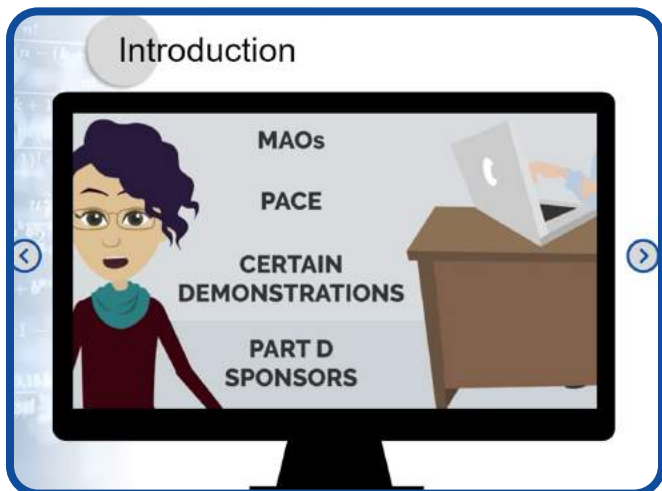
# An Overview of Risk Adjustment



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## Introduction

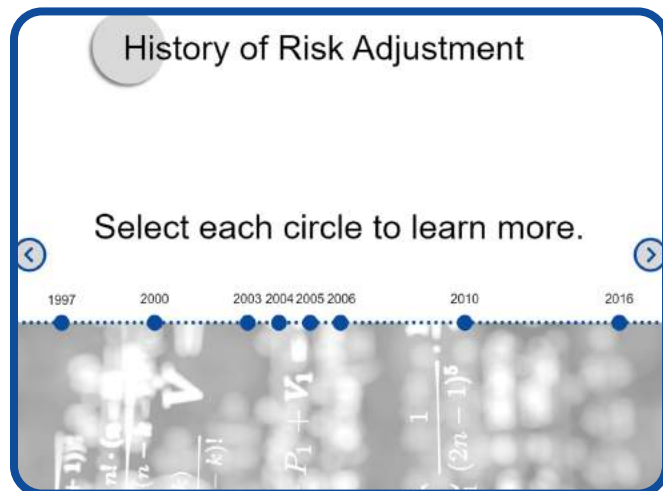


Risk adjustment is used to adjust payments to Medicare Advantage Organizations (MAOs), Program of All Inclusive Care for the Elderly (PACE), certain demonstrations, and Part D sponsors for the expected health-care costs of their enrollees based on disease factors and demographic characteristics.

This course covers the foundation and history of risk adjustment, the risk adjustment models, and how the CMS Hierarchical Condition Category (HCC) and Prescription Drug Hierarchical Condition Category (RxHCC) models are used to calculate risk scores.

Select the Next arrow to continue.

## History of Risk Adjustment



Here is a timeline from 1997 to 2016. Select each circle to learn more about the history of risk adjustment.

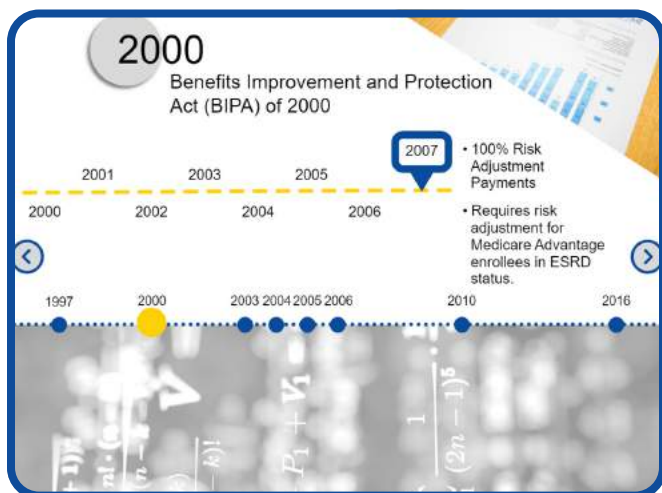
### 1997 – Balanced Budget Act (BBA) of 1997



Risk Adjustment for Medicare Advantage (then, Medicare+Choice) was first required by the Balanced Budget Act in 1997. The Act mandated that the risk adjustment methodology account for variations in per capita costs based on health status and other demographic factors for payments.



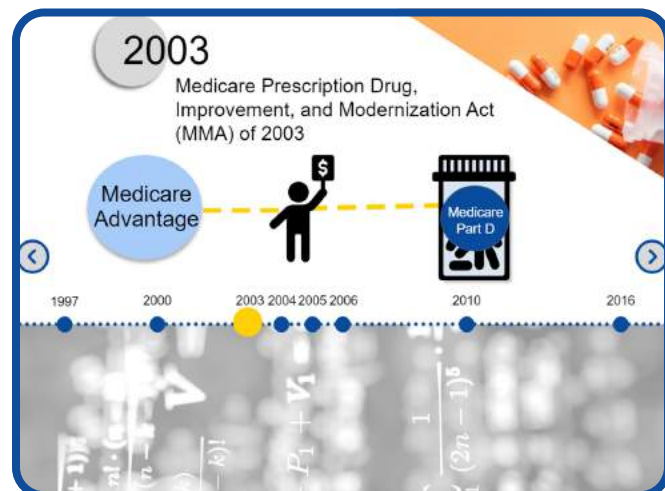
## 2000 – Benefits Improvement and Protection Act (BIPA) of 2000



The Benefits Improvement and Protection Act of 2000 established an implementation schedule to achieve 100% in risk adjustment payments by 2007, and it required risk adjustment for Medicare Advantage enrollees in End-Stage Renal Disease (ESRD) status.

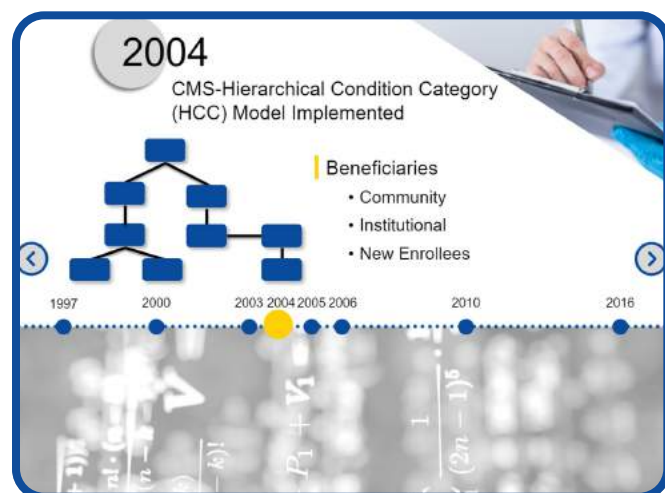
Risk adjustment was gradually phased in, starting with principal inpatient diagnoses and demographic factors (age, sex, Medicaid status, and original reason for Medicare entitlement). PACE and dual demonstration programs lagged one year behind the Medicare Advantage plans on the implementation schedule and completed their phase-in in 2008.

## 2003 – Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003



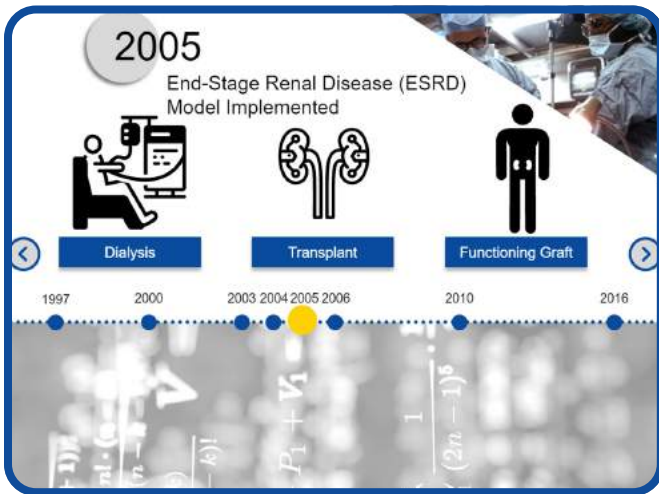
The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 created the Medicare Advantage program to replace the Medicare+Choice program and introduce the bidding process. It also created the Medicare Part D prescription drug benefit to begin in 2006 and included risk adjusted payments.

## 2004 – First CMS-Hierarchical Condition Category (HCC) Model Implemented



The first CMS-HCC model was implemented in 2004. This model produces different risk scores for beneficiaries who reside in either the community or an institutional setting, or who are new enrollees.

## 2005 – End-Stage Renal Disease (ESRD) Model Implemented



CMS implemented a separate risk adjustment model for beneficiaries with End-Stage Renal Disease in 2005. This model produces different risk scores for beneficiaries in dialysis status, beneficiaries who have a kidney transplant, and beneficiaries who have a functioning graft.

## 2006 – RxHCC Risk Adjustment Model Implemented



In 2006, the RxHCC risk adjustment model was implemented. Similar to the CMS-HCC risk adjustment model, the RxHCC model uses demographic characteristics and disease variables to predict costs. The RxHCC model predicts Medicare Part D plan liability costs for prescription drugs under the Part D program.

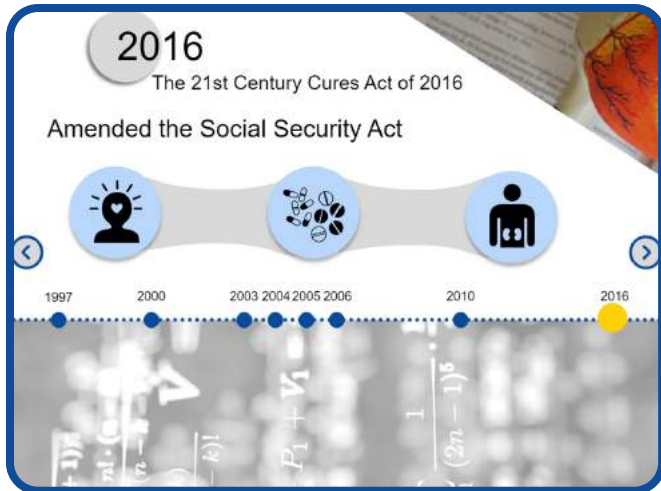
## 2010 – Patient Protection and Affordable Care Act (ACA) of 2010



The Patient Protection and Affordable Care Act of 2010 refined the Medicare Advantage risk adjustment methodology for new enrollee risk scores for Chronic Condition Special Needs Plans (SNPs). This methodology takes into account that enrollees in these types of SNPs must have certain conditions as a prerequisite to being enrolled.

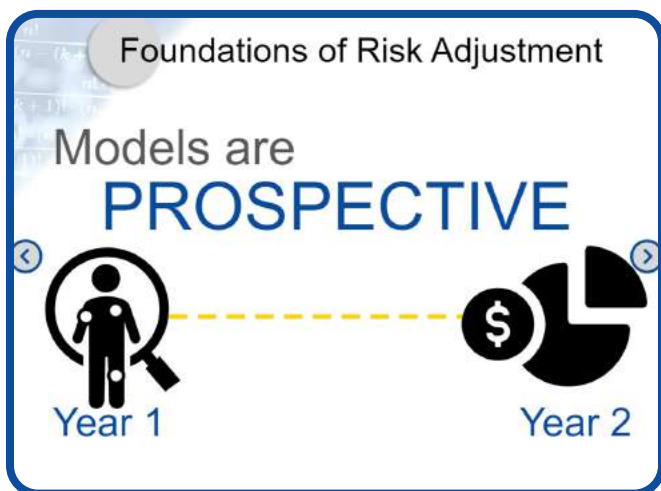


## 2016 – The 21st Century Cures Act of 2016



The 21st Century Cures Act of 2016 amended the Social Security Act by, in part, requiring CMS to make changes to the CMS-HCC risk adjustment model for 2019 and subsequent years. The changes include the evaluation of additional diagnosis codes for mental health, substance use disorder, and chronic kidney disease into the model. These changes take into account a Medicare Advantage enrollee's total number of conditions by making an additional adjustment as the number of diseases or conditions of an individual increases. These changes will be phased in by 2022.

## Foundations of Risk Adjustment

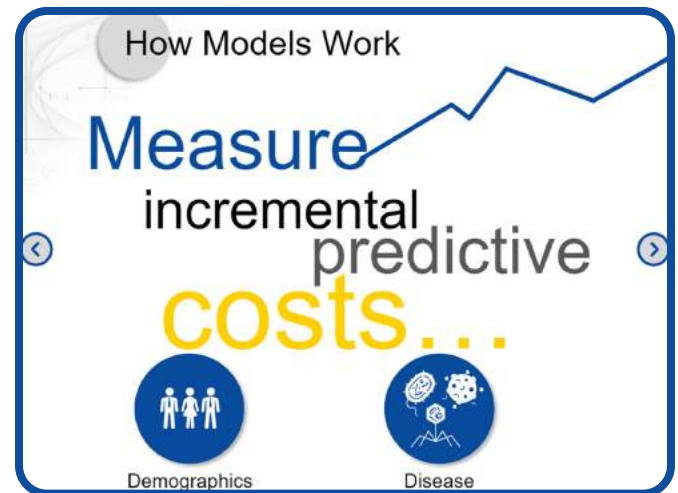


Risk adjustment is used to adjust plan bids as well as payments to plans based on their enrollee's expected health care costs.

The CMS-HCC based Medicare risk adjustment models are prospective – diagnoses in one year are used to predict costs in the following year.

CMS has multiple models to address differences in the beneficiary population (for example, the ESRD population) and program costs (for example, Part C versus Part D).

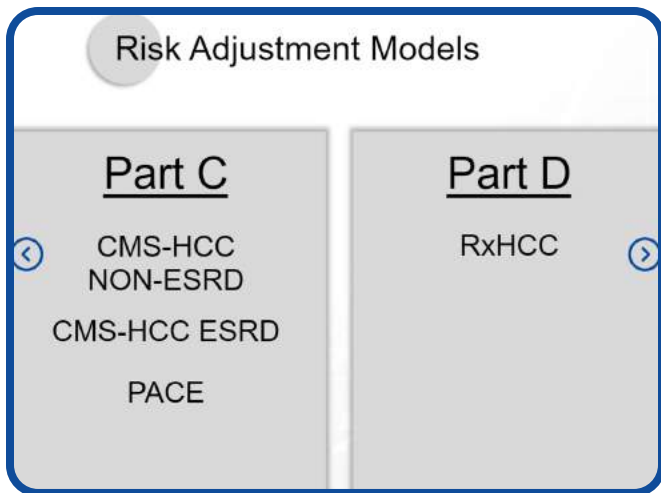
## How Models Work



Risk adjustment uses statistical models that measure incremental predictive costs of a beneficiary's demographic and disease characteristics, and age, sex, and certain statuses such as Medicaid eligibility. The total predictive costs are determined by adding the coefficients of a beneficiary's demographics and health status factors.

Diagnoses are grouped into condition categories with similar Medicare predicted costs and those that are clinically related. Hierarchies are applied to these condition categories based on disease severity so that risk scores reflect the most severe and costly category of a condition.

# Risk Adjustment Models

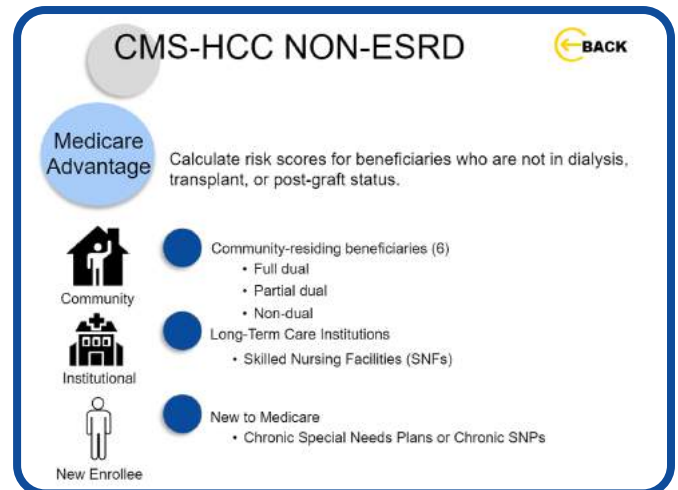


CMS has developed separate risk adjustment models for the Parts A and B benefits offered by plans under Part C and for the Part D benefits offered by Medicare Advantage Part D and prescription drug plans. Within each benefit, CMS also segments each model, creating subpopulations with distinct cost patterns.

Take some time to explore the models applicable to you and your work.

When you're done exploring, select the Next button to learn about the similarities and differences between the Part C and Part D models.

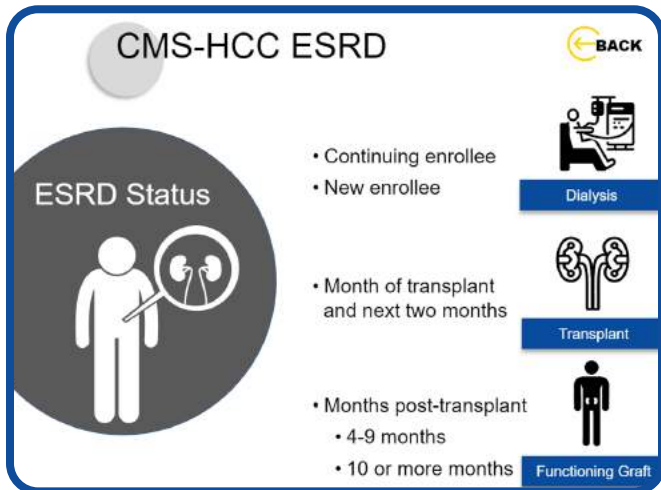
## Part C (CMS-HCC NON-ESRD)



CMS uses the Part C CMS-HCC model to calculate risk scores for beneficiaries who are not in dialysis, transplant, or post-graft status. There are multiple segments associated with this model including the community, institutional, and new enrollee segments. For the Part C models implemented in 2017 and beyond, there are six segments for community-residing beneficiaries – one each depending on a beneficiary's aged and disabled status and their dual eligible status – whether they are full dual, partial dual, or non-dual. The institutional segment is used to calculate risk scores for individuals who are in long-term care institutions, including Skilled Nursing Facilities (SNFs), for 90 days or more. New enrollee model segments are used for aged and disabled beneficiaries who are new to Medicare or do not otherwise have enough diagnoses to calculate a risk score – operationalized as those who do not have 12 months of Part B in the data collection period. These new enrollee risk scores do not use diagnoses to predict costs and use demographic factors only. There is also a segment for aged and disabled new enrollees in Chronic Special Needs Plans, known as Chronic SNPs.

Select the Back button to continue reviewing the models.

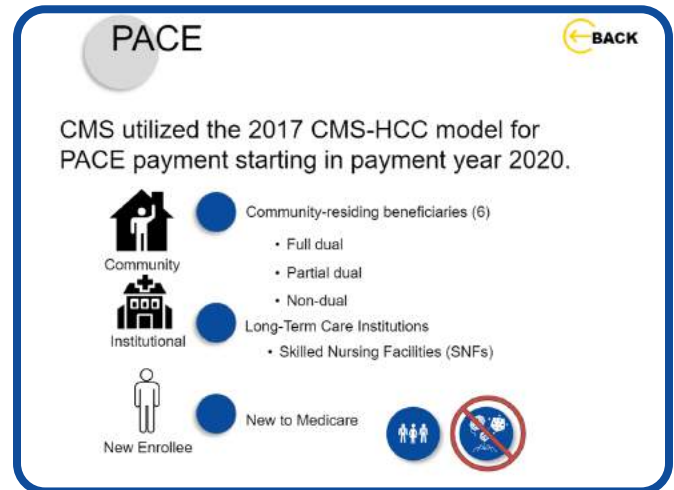
## Part C (CMS-HCC ESRD)



The ESRD model has similar characteristics as the CMS-HCC model, but it differs in that it predicts medical (Parts A and B) costs for the population in ESRD status. The ESRD model is a suite of models that produce risk scores for beneficiaries in Dialysis, Transplant, and Functioning Graft statuses. The Dialysis model is segmented by continuing enrollee – those with 12 months of Part B in the data collection period – and new enrollee. The Transplant model covers the month of transplant and the next two months. The Functioning Graft model includes segments for beneficiaries with a functioning kidney graft based on the number of months post-transplant, whether it be 4 to 9 months or 10 or more months.

Select the Back button to continue reviewing the models.

## PACE



CMS pays PACE organizations similar to MAOs using risk adjustment that reflects beneficiary health status. We typically use the same models to calculate risk scores for beneficiaries enrolled in PACE organizations as we use to pay Medicare Advantage and, starting in 2006, for Part D costs.

CMS utilized the 2017 CMS-HCC model for PACE payment starting in payment year 2020.

Similar to the 2020 CMS-HCC model used in the risk score calculations of non-PACE Part C plans, there are six segments for community-residing beneficiaries. Each segment depends on a beneficiary's aged and disabled status and their dual eligible status – whether they are full dual, partial dual, or non-dual.

The institutional segment is used to calculate risk scores for individuals who are in long-term care institutions, including Skilled Nursing Facilities (SNFs), for 90 days or more. New enrollee model segments are used for aged and disabled beneficiaries who are new to Medicare and do not otherwise have enough diagnoses to calculate a risk score – operationalized as those who do not have 12 months of Part B in the data collection period. These new enrollee risk scores do not use diagnoses to predict costs and use demographic factors only.

Select the Back button to continue reviewing the models.

## Part D (RxHCC)

RxHCC
← BACK

Predicts plan liability for prescription drugs under the Part D program.

- Continuing enrollee, community
- Aged, non-low income
- Aged, low income
- Disabled, non-low income
- Disabled, low income
- Continuing enrollee, institutional
- New enrollee, non-low income
- New enrollee, low income
- New enrollee, institutional

New Enrollee

CMS uses a separate risk adjustment model to predict plan liability for prescription drugs under the Part D program. The Part D risk adjustment model (RxHCC model) shares many of the characteristics of the CMS-HCC model. Note: we will discuss similarities and differences in the next section. There are separate segments based on aged versus disabled status, and low income versus non-low-income status, and continuing versus new enrollee.

Select the Back button to continue reviewing the models.

## Comparing Part C & D Models

### Comparing Part C and D Models

Similarities

Differences

- Source of Diagnosis
- Predicting Expenditures
- Additive and Hierarchical Model
- Adjusting Payment Amounts
- Expected Costs

Select each tab to learn more about the Part C and D similarities and differences.

Predicted Expenditures

Select each tab to learn more about the Part C and D similarities and differences.

## Source of Diagnosis

### Comparing Part C and D Models

#### Source of Diagnosis

Similarities

Differences

Source of Diagnosis

<b>Risk Scores</b>	Predict costs
<b>Diagnosis Categories</b>	Model Calibration Calculate risk scores for payments

Each beneficiary is assigned their own risk score for Part C and for Part D. Since these models predict different costs, a beneficiary's Part C and Part D risk scores may differ.

The International Classification of Diseases Codes are used for both the calibration of the models and to calculate risk scores for payment. CMS uses diagnoses from both MAOs and from Fee-For-Service providers.

## Predicting Expenditures

### Comparing Part C and D Models

#### Predicting Expenditures

Similarities

Differences

Predicting Expenditures

CMS-HCC

Full Part A and B Medicare

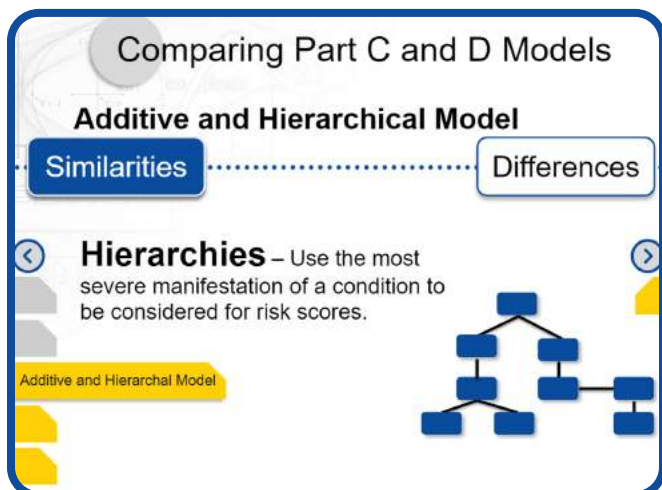
RxHCC

Prescription drug costs

Both models predict benefit costs for which the plans are responsible for covering. The CMS-HCC model predicts medical expenditures covered under Parts A and B Medicare. The RxHCC model predicts the drug costs for which the Part D plan is liable – in other words, it does not include cost sharing amounts for which the enrollee or costs for which the government is responsible for paying.

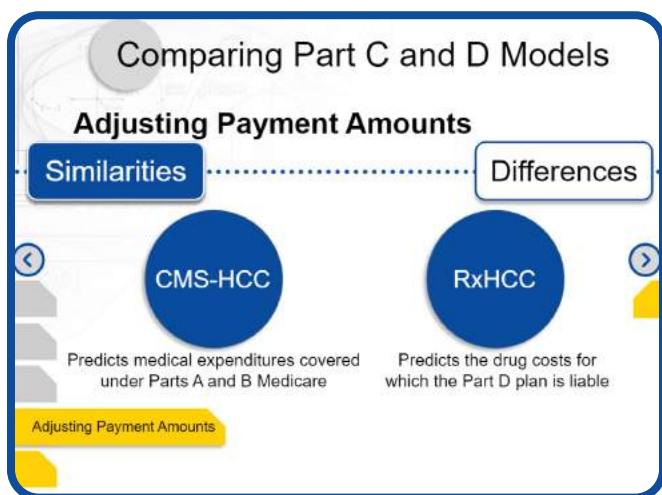


## Additive and Hierarchical Model



The two models generate enrollee risk scores by adding relative risk factors for each HCC or RxHCC associated with each beneficiary. Both models use hierarchies. Hierarchies use the most severe manifestation of a condition to be considered for risk scores.

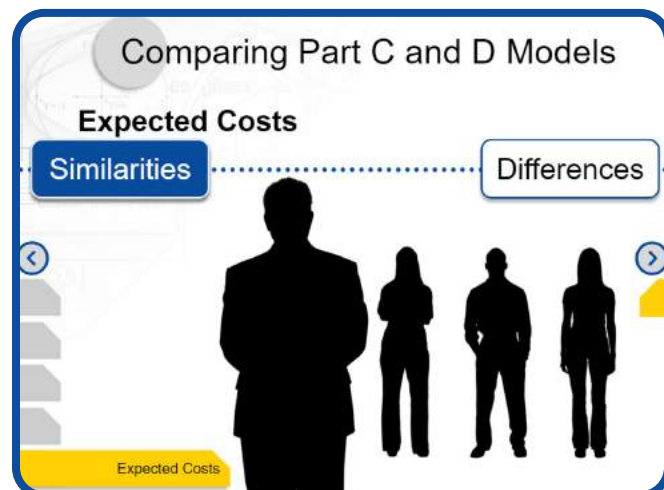
## Adjusting Payment Amounts



Risk adjustment is intended to adjust capitated payment amounts to pay plans accurately for groups of beneficiaries, thereby increasing incentives for health plans to enroll all beneficiaries, regardless of health status. Both models adjust payments for the expected costs, based on underlying health status, of the beneficiaries enrolled in the plan.

The CMS-HCC model adjusts Part C monthly payments to Medicare Advantage plans, PACE organizations, and certain demonstrations. The RxHCC model adjusts the monthly Part D direct subsidy.

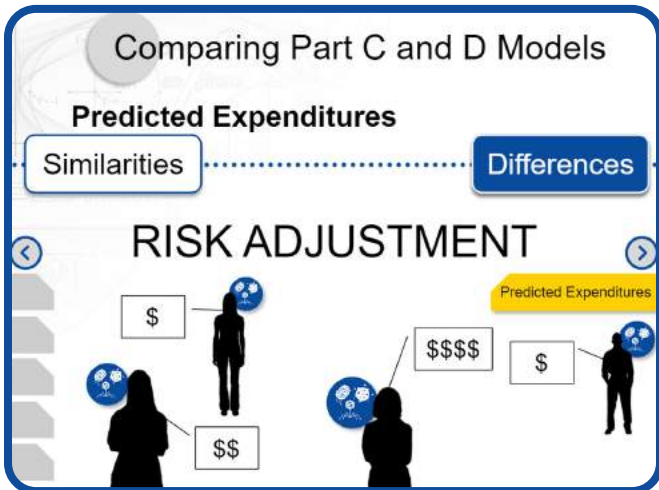
## Expected Costs



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.



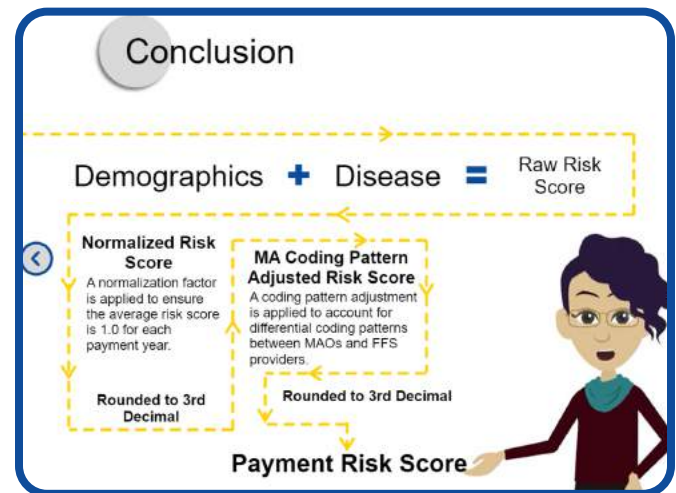
## Predicted Expenditures



While both the CMS-HCC and the RxHCC models use health status or diagnoses and demographic characteristics 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 and RxHCCs, as well as different Part C and Part D risk scores for a 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, the two risk adjustment models have been designed to predict the relevant costs.

## Conclusion



The risk score formula is equal to the sum of the demographic factors and the disease factors. The sum of those factors equals the raw risk score. CMS then applies several methodological adjustments to the raw risk score. These adjustments are the normalization factor, used to keep the average risk score at 1.0, and the Medicare Advantage coding pattern adjustment, to account for differential coding patterns between MAOs and Fee-For-Service providers. The result is the Payment Risk Score.

We will discuss these adjustments more in Module 2, where we will introduce how risk scores are calculated, including the steps in the process to access the information that you will need to calculate the Risk Score. A future module will provide detailed calculations for each of the risk score models.

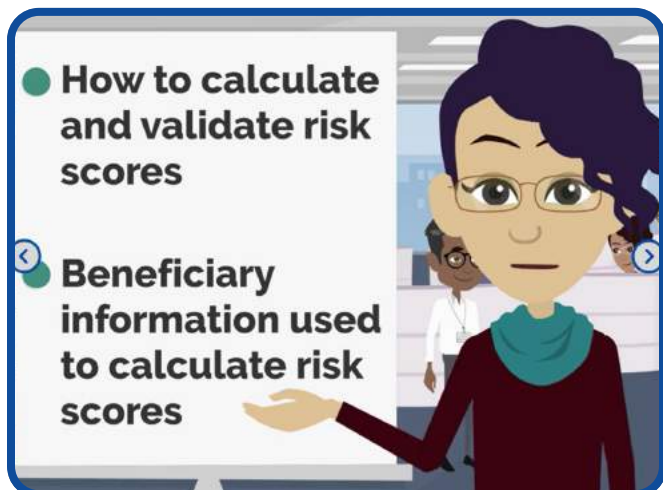
If you have questions, you can submit them to [RiskAdjustmentPolicy@cms.hhs.gov](mailto:RiskAdjustmentPolicy@cms.hhs.gov).



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## Introduction

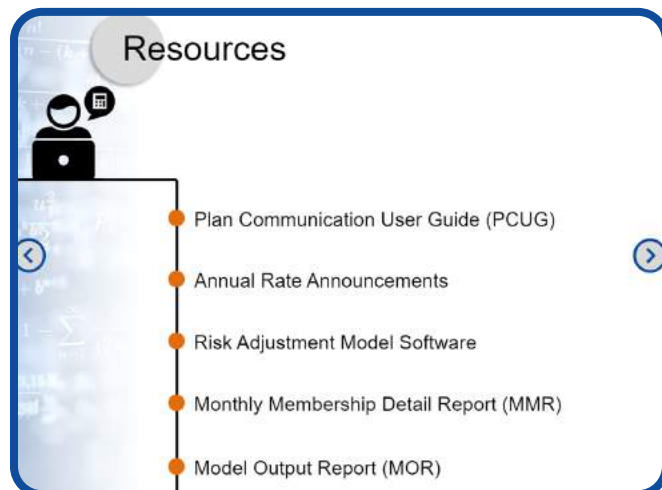


The risk adjustment models are used to calculate risk scores, which predict an individual beneficiary's health care expenditures or plan liability for Part D drugs relative to the average beneficiary.

While the Centers for Medicare and Medicaid Services, or CMS, uses multiple risk adjustment models in payment to address differences in the beneficiary population, the same general process is used to calculate risk scores.

This module will introduce how to calculate and validate risk scores, including the steps in the process, as well as the beneficiary information used to calculate risk scores.

## Resources



There are several resources needed to calculate and validate the risk scores.

This section links you to this information and will be available as a resource throughout the training.

### Plan Communication User Guide (PCUG)



The Plan Communication User Guide for Medicare Advantage Prescription Drug Plans, also referred to as the PCUG, is on the Research, Statistics, Data & Systems, MAPD Help Desk page of the cms.gov website.

## Annual Rate Announcements

### Annual Rate Announcements

[Click to Access Annual Rate Announcements](#)

Annual Rate Announcements for the applicable payment years are on the Medicare Advantage Rates & Statistics, Announcements and Documents page of the cms.gov website.

## Risk Adjustment Model Software

### Risk Adjustment Model Software

[Click to Access Risk Adjustment Model Software](#)

The Medicare Advantage Rates & Statistics, Risk Adjustment page of the cms.gov website has additional risk adjustment information including the Risk Adjustment model software (HCC, RxHCC, ESRD) and the diagnosis to HCC (or RxHCC) mappings.

## Monthly Membership Detail Report (MMR)

### Monthly Membership Detail Report (MMR)

[Click to Access the Plan Communications User Guide \(PCUG\)](#)

The Monthly Membership Detail Report, referred to as the MMR, is the basic accounting file of beneficiary level payments and adjustments for Medicare Advantage Organizations and Prescription Drug Plans. There are several fields used in the risk score calculations which we will describe in this training.

For field layout information, please see the PCUG.

## Model Output Report (MOR)

### Model Output Report (MOR)

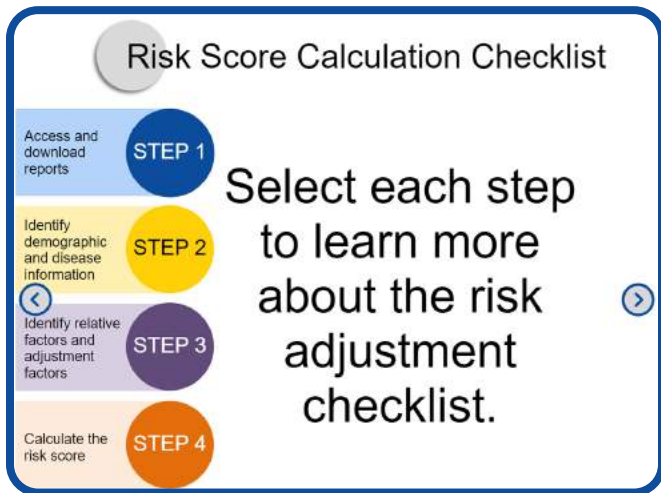
[Click to Access the Plan Communications User Guide \(PCUG\)](#)

The Model Output Report (MOR) is a monthly report that lists the diseases applicable to each beneficiary.

For field layout information, please see the PCUG.

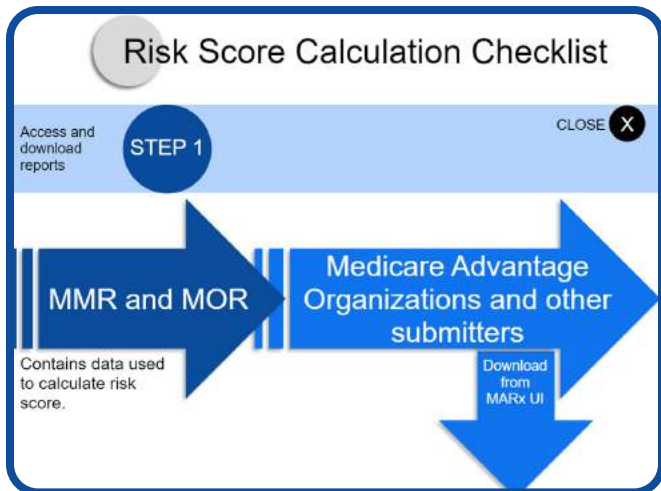


# Risk Score Calculation Checklist



Risk Scores are validated in essentially four steps. Select each circle to learn more.

## Step 1



The Monthly Membership Detail Report, or MMR, and the Model Output Report, or MOR, include the data used to calculate the risk score for a beneficiary in your contract.

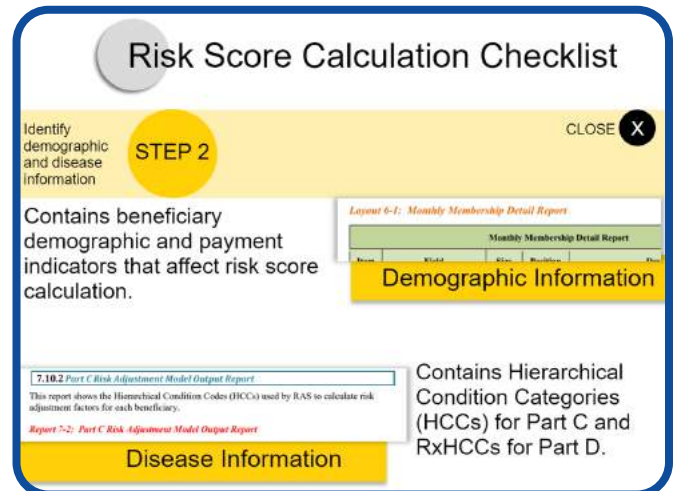
CMS sends the reports to Medicare Advantage Organizations and other submitters every month, but if you do not have them available and are an active contract, you may download them from the Medicare Advantage Prescription Drug User Interface, also known as the MARx UI.

The MMR includes Part C, ESRD, and Part D content.

There are separate MORs for the Part C, ESRD, and Part D models.

The MMR and MOR layout field descriptions are available in the PCUG.

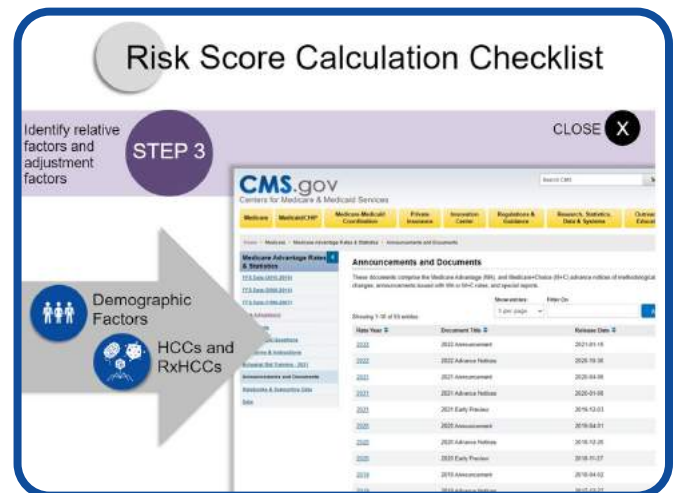
## Step 2



You will use the MMR and MOR to identify demographic and disease information used for risk score calculation.

You will also look for beneficiary demographic and payment indicators that affect risk score calculation in the MMR and the Hierarchical Condition Categories (HCCs) for Part C and RxHCCs for Part D in the respective MOR.

## Step 3

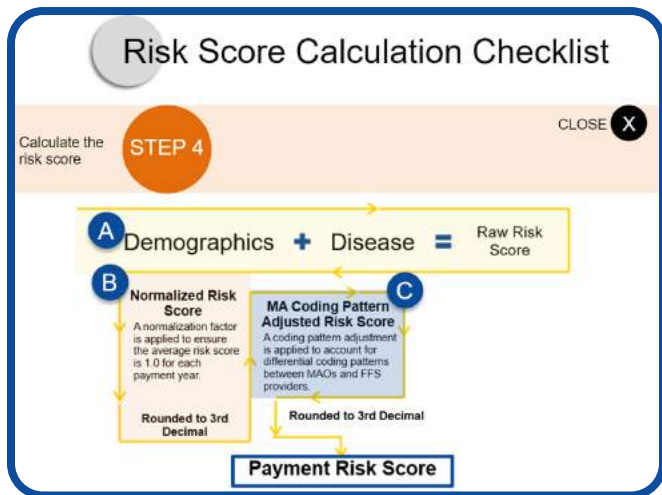


After you have identified the demographic factors and the HCCs or RxHCCs, you will use the Rate Announcement for the applicable payment year, or the risk

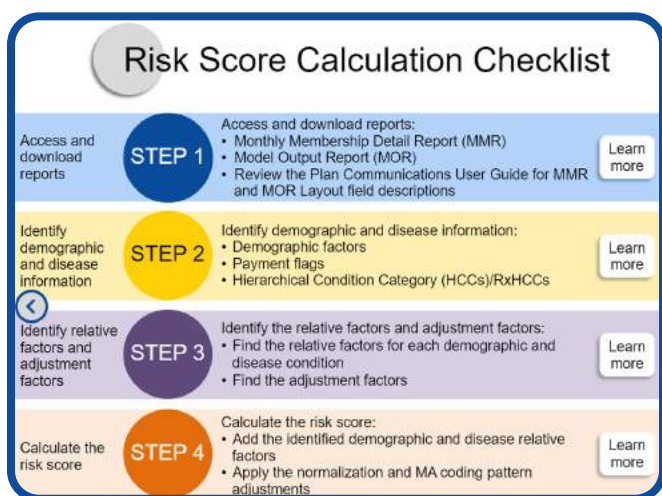
adjustment model software that is posted on the CMS risk adjustment website, to identify the relative factors for each demographic factor and HCC or RxHCC.

You will also find adjustment factors used in the risk score formula in the Rate Announcement. These include the normalization factors and the Medicare Advantage (MA) coding pattern adjustment factor.

## Step 4

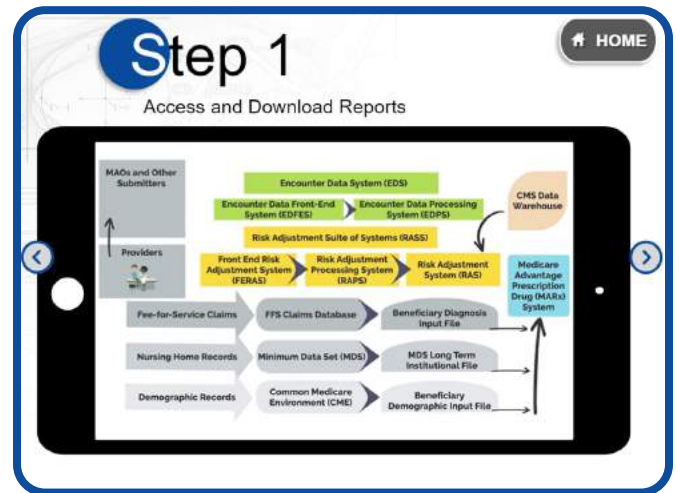


Once you have identified all relative factors and adjustment factors, you can calculate a beneficiary's risk score.



Select each Learn More button to continue exploring each step. At any time, you can select the Main Menu button to return to this page.

## Step 1: Access and Download Reports



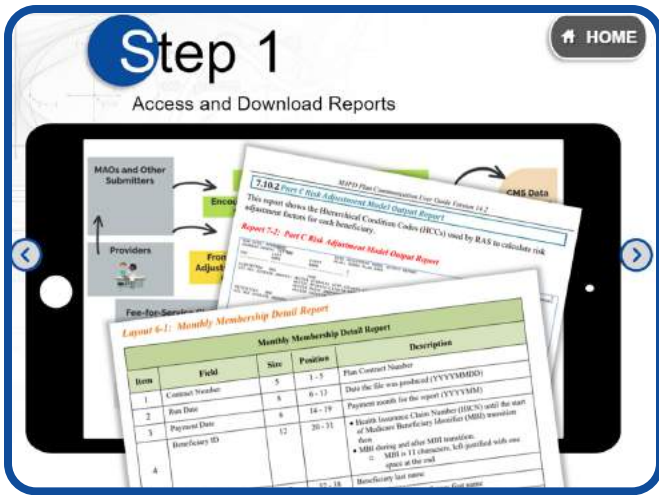
Medicare Advantage Organizations or third-party submitters collect and submit to CMS the diagnostic information and information for items and services provided to beneficiaries.

Diagnoses and additional variables are submitted into the Front-End Risk Adjustment System which forwards the data to the Risk Adjustment Processing System, RAPS.

Encounter data goes through a similar but separate process. Encounter Data is submitted to the Encounter Data Front-End System which forwards the data to the Encounter Data Processing System, also known as the back-end system, where it resides in the Encounter Operational Datastore.

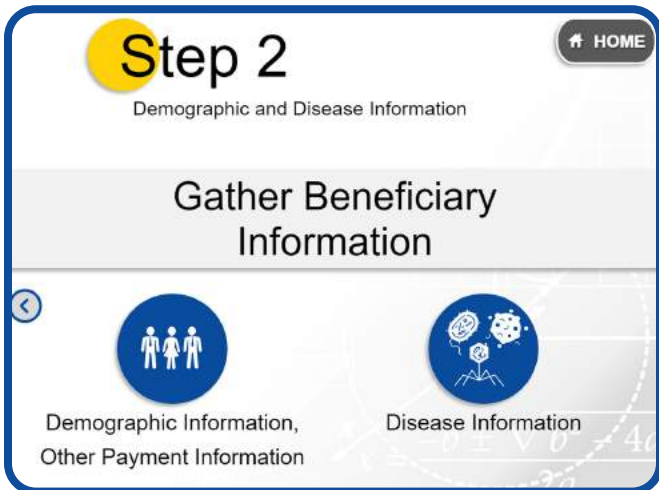
Diagnoses from RAPS, encounter data, and fee-for-service claims, and demographic information from the Common Medicare Environment are utilized for risk score calculation. In addition, information from nursing home records housed in the Minimum Data Set is used for long term institutional status.

The risk scores are then sent to MARx for payment calculations.



Finally, CMS sends the MMRs and MORs to the plans. The disease and demographic information CMS uses to calculate risk scores is provided in the MMRs and MORs. Plans may therefore use the data in the MMR and MOR to validate risk scores.

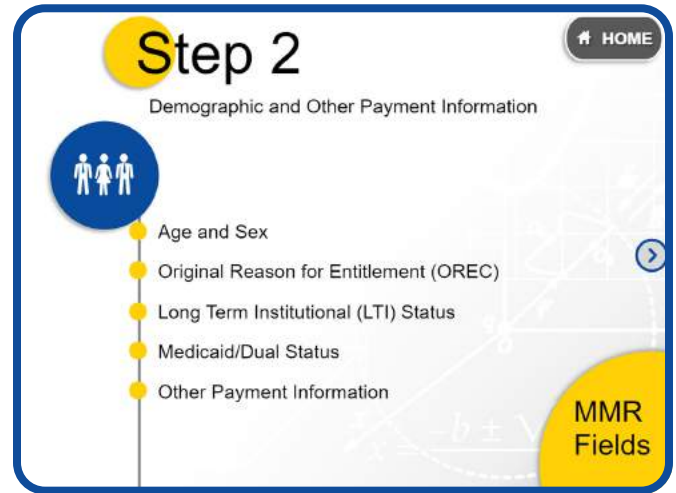
## Step 2: Identify Demographic and Disease Factors



Calculating risk scores requires specific demographic information, other payment information, and disease information.

Select each button to learn more.

## Demographic and Other Payment Information



There are several demographic indicators on the MMRs that identify the demographic factors used when calculating risk scores.

The demographic information includes beneficiary facts, such as age and sex, and includes certain beneficiary status indicators that enable grouping into similar segments, such as those living in the community versus an institution.

Select each factor to learn more.

At any time, you may click the MMR Fields button to review the fields, indicators, and descriptions which are also outlined in the PCUG. When you are finished exploring, select the Next button to return to the Step 2 menu.



## Demographic Information

### Age and Sex

The screenshot shows a mobile application interface for 'Demographic Information'. It features a 'HOME' button in the top right and a 'BACK' button in the top left. Below the title, there is a 'Long Term Institutional (LTI) Status' indicator. The main content area is divided into two sections: 'AGE' and 'SEX GENDER'. The 'AGE' section includes a table with columns for 'Risk Adjustment Age Group (RAAG)', 'Age', and 'Rate'. The 'SEX GENDER' section includes a table with columns for 'Sex', 'Gender Code', and 'Rate'. The tables contain data for various age groups and sex/gender categories.

The models include variables for age and sex groupings. Please note, the terms gender and sex are used interchangeably. The age and sex variables in the model have associated relative factors published in the Rate Announcements. Age, for risk adjustment purposes, is the beneficiary's age as of February 1st of the payment year.

### Original Reason for Entitlement (OREC) Code

The screenshot shows a mobile application interface for 'Demographic Information'. It features a 'HOME' button in the top right and a 'BACK' button in the top left. Below the title, there is a 'Long Term Institutional (LTI) Status' indicator. The main content area is divided into two sections: 'AGE' and 'DISABILITY'. The 'DISABILITY' section includes a table with columns for 'Original Reason for Entitlement Code (OREC)', 'Rate', and 'Description'. The 'ESRD' section includes a table with columns for 'ESRD Code', 'Rate', and 'Description'. The tables contain data for various OREC and ESRD codes.

The Original Reason for Entitlement can be due to age, disability, ESRD, or a combination of disability with ESRD.

There is an additional relative factor applied to the risk scores of beneficiaries who were originally entitled to Medicare due to disability.

## Long Term Institutional (LTI) Status

The screenshot shows a mobile application interface for 'Demographic Information'. It features a 'HOME' button in the top right and a 'BACK' button in the top left. Below the title, there is a 'Long Term Institutional (LTI) Status' indicator. The main content area is divided into two sections: 'Long Term Care Facility' and 'Long Term Institutional (LTI)'. The 'Long Term Institutional (LTI)' section includes a text box stating: 'Individuals residing in an institution for at least 90 days as identified using 90-day assessments in the Minimum Data Set (MDS).'

In most cases, the risk adjustment models have separate segments to calculate risk scores for community and long-term institutional residents. Long-term institutionalized (LTI) MA enrollees are individuals residing in an institution for at least 90 days as identified using 90-day assessments in the Minimum Data Set (MDS). LTI beneficiaries have risk scores calculated using the LTI segment of the model based on their monthly status during the payment year. Short term institutionalized MA beneficiaries have risk scores (i.e., less than 90 days) calculated based on the community segment of the model.

The screenshot shows a mobile application interface for 'Demographic Information'. It features a 'HOME' button in the top right and a 'BACK' button in the top left. Below the title, there is a 'Long Term Institutional (LTI) Status' indicator. The main content area is divided into two sections: 'Long Term Care Facility' and 'Month-by-Month LTI Status'. The 'Month-by-Month LTI Status' section includes a bar chart showing the status for each month from Month 1 to Month 12.

Because CMS calculates initial and mid-year risk scores before it has complete data on beneficiaries' LTI status in the payment year, they use the presence of a 90-day assessment reported for any one month during the 12-month data collection period as a proxy for LTI status in the payment year. At the final payment recon-

iliation 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 to apply.

### Medicaid/Dual Status

The screenshot shows a 'Demographic Information' screen with a 'HOME' button and a 'BACK' button. Under 'Medicaid/Dual Status', there is a 'MEDICAID STATUS' section with a shield icon and a 'Part C' section with a document icon. A text box explains: 'Determines which community segment risk score is used in payment.' Below this is a 'Monthly Membership Detail Report' table.

On	Off	Filler	#	163-170	Spaces
58		Medicaid Full/Partial Non-dual	1	171	The Medicaid status that is in effect for the month used to determine the appropriate community risk score for a beneficiary. (Medicaid status = CPM-5) For all other risk scores, this field is informational. 1 = Beneficiary is determined to be full or partial Medicaid (F or P) 0 = Beneficiary is not Medicaid (N) Space = This is a retrospective adjustment for a month prior to January 2017.

For the Part C model, Medicaid status determines which community segment risk score is used in payment. The MMR includes the Medicaid status information that was used to determine the appropriate community risk score for a payment month. You can use this field to determine if the beneficiary received a full dual or partial dual risk score for the month. For non-community beneficiaries, such as those with an LTI status and new enrollees, this field is informational only.

The Medicaid dual status code that is in effect for the month is used to determine the appropriate community risk score for a non-ESRD, full-risk, non-PACE beneficiary. CMS identifies full-risk beneficiaries as those who are entitled to Part A and have at least 12 months of enrollment in Part B.

### Other Payment Information

The screenshot shows a 'Step 2' screen titled 'Other Payment Information' with 'HOME' and 'BACK' buttons. A list of factors is shown: End-Stage Renal Disease (ESRD) Status Codes, Frailty Score, Part C Risk Adjustment Factor (RAFT) Codes, Part D Risk Adjustment Factor (RAFT) Codes, and Default Risk Factor Code. A yellow 'MMR Fields' label is in the bottom right corner.

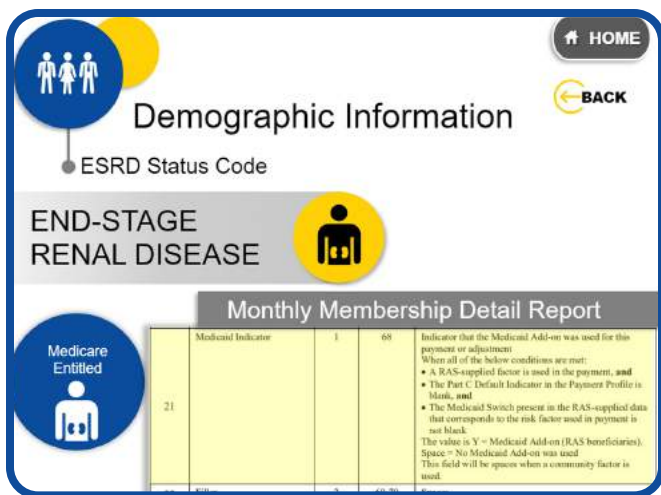
Select each factor to review other payment information.

### End-Stage Renal Disease (ESRD) Status Codes

The screenshot shows a 'Demographic Information' screen with 'HOME' and 'BACK' buttons. Under 'ESRD Status Code', there is an 'END-STAGE RENAL DISEASE' section with a person icon. Below are three categories: 'Non-Functioning Kidney' (with kidney icon), 'Kidney Transplant' (with person and dialysis icon), and 'Medicare Entitled' (with person icon).

End-Stage Renal Disease (ESRD) is a medical condition in which a person's kidneys cease functioning on a permanent basis, leading to the need for a regular course of long-term dialysis or a kidney transplant to maintain life. Beneficiaries may become entitled to Medicare based on ESRD.



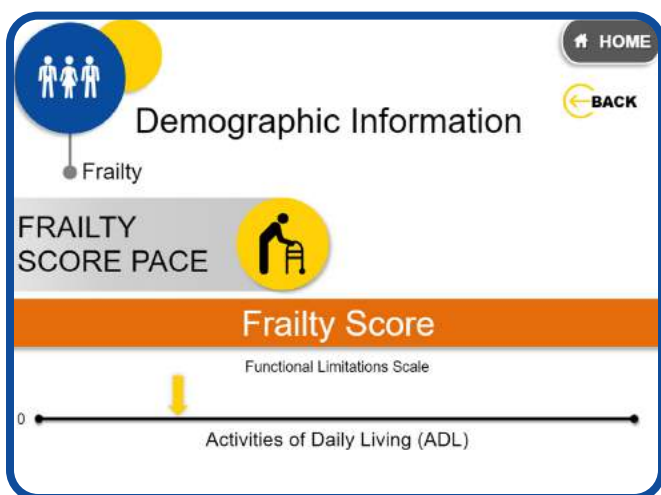


There is a separate risk adjustment model for beneficiaries who are in ESRD status.

The Medicaid Indicator, field 21, is used for the CMS-HCC ESRD risk adjustment calculation model. It will indicate whether the ESRD beneficiary is eligible for Medicaid. For ESRD beneficiaries, this field has the values that will impact the beneficiary risk score.

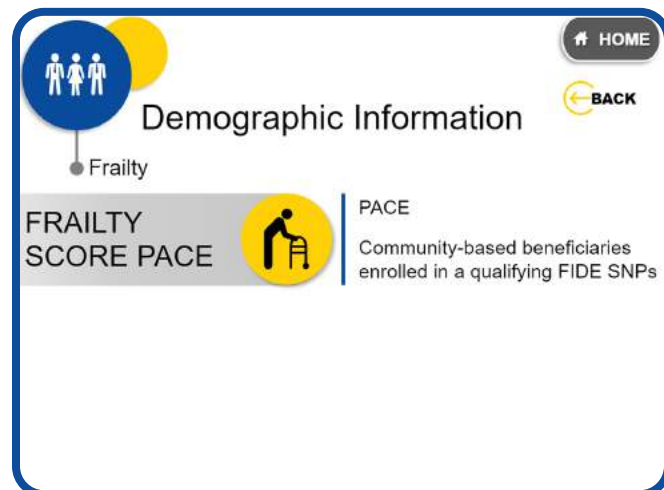
Any value in the Medicaid Dual Status Code, field 84, for ESRD beneficiaries is only informational.

### Frailty Score

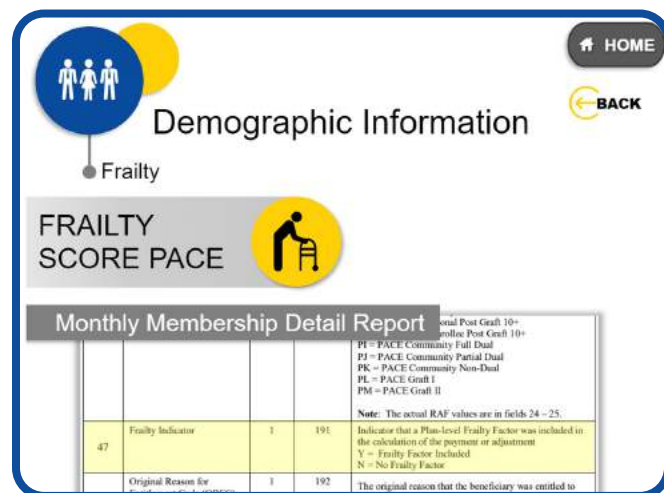


The purpose of the frailty adjustment is to account for Medicare expenditures of community populations with functional impairments that are unexplained by risk adjustment. The frailty score is derived from the number of functional limitations represented by the Activities of Daily Living (ADL) scale to calibrate the frailty model and then used to determine the relative

contract or plan-level frailty of those in the community.



Frailty adjustments are only added to the risk scores for PACE participants and community-based beneficiaries enrolled in qualifying Fully Integrated Dual Eligible Special Needs Plans, known as FIDE SNPs. For FIDE SNPs to qualify for a frailty adjustment, they must have a similar level of frailty as PACE organizations. There is no frailty adjustment applied to the risk scores of long-term institutionalized beneficiaries.



Field 47 on the MMR, Frailty Indicator, indicates if a frailty score is used in payment.

Field 80 on the MMR, The Part C Frailty Score Factor, provides the frailty factor that was used in payment.

## Part C Risk Adjustment Factor (RAFT) Codes

Demographic Information

Part C RAFT Codes

RISK ADJUSTMENT FACTOR (RAFT)

Monthly Membership Detail Report

Factor description	field indicator	All other codes
• ESRD		
• PACE		
		CMS-HCC

Risk Adjustment Factor Type (RAFT) codes indicate which status was used to select the type of risk score used in calculating the monthly payment for an individual beneficiary. RAFT codes with ESRD or PACE in the factor description field indicate those models were used to calculate the beneficiary's risk score. For all other codes, the CMS-HCC (non-ESRD) model was used to calculate a beneficiary's risk score.

The RAFT codes will also indicate which segment of each model was used to calculate the risk score. The segment of the CMS-HCC (non-ESRD) model that is used to calculate risk scores is based on a combination of the following factors: whether or not the beneficiary is continuing or new enrollee, dual status, and residing in the community or an institution.

Demographic Information

Part C RAFT Codes

RISK ADJUSTMENT FACTOR (RAFT)

Monthly Membership Detail Report

- C1 = Community Post Graft 4-9 (ESRD)
- C2 = Community Post Graft 10+ (ESRD)
- CF = Community Full Dual**
- CP = Community Partial Dual
- CN = Community Non-Dual
- D = Dialysis (ESRD)

For example, if the beneficiary resides in the community and is eligible for both Part C Medicare and Medicaid,

then the RAFT code CF will appear in the MMR and indicate that the risk score was calculated using factors for Community Full Dual.

## Part D Risk Adjustment Factor (RAFT) Codes

Demographic Information

Part D RAFT Codes

RISK ADJUSTMENT FACTOR (RAFT)

Monthly Membership Detail Report

Factor description	field indicator	All other codes
Continuing or new enrollee		
Low income		
ESRD vs. Non-ESRD		
Residing in the community or an institution		

The Part D RAFT code also indicates which Part D risk adjustment model segment was used to calculate a beneficiary's risk score. The segment of the Part D model that is used to calculate risk scores is based on a combination of the following factors: whether or not the beneficiary is continuing or new enrollee, low income, ESRD or non-ESRD, and residing in the community or an institution.

Demographic Information

Part D RAFT Codes

RISK ADJUSTMENT FACTOR (RAFT)

Monthly Membership Detail Report

- D4 = New Enrollee Community Non-Low Income Non-ESRD,
- D5 = New Enrollee Community Non-Low Income ESRD,
- D6 = New Enrollee Community Low Income Non-ESRD,**
- D7 = New Enrollee Community Low Income ESRD,
- D8 = New Enrollee Institutional Non-ESRD,
- D9 = New Enrollee Institutional ESRD,
- P1 = PACE New Enrollee Community Low Income Non-ESRD

For example, if the beneficiary is a new enrollee, low income, non-ESRD, and residing in the community, then the RAFT code D6 will appear in the MMR and indicate that the risk score was calculated using factors that meet these conditions.

## Default Risk Factor Code

**Demographic Information**

Default Risk Factor Code

**RISK ADJUSTMENT FACTOR (RAFT)**

1 = Default Enrollee- Aged/Disabled.
2 = Default Enrollee- ESRD dialysis.
3 = Default Enrollee- ESRD Kidney Transplant- Month 1.
4 = Default Enrollee- ESRD Kidney Transplant- Months 2-3.
5 = Default Enrollee- ESRD Post Graft- Months 4-9.
6 = Default Enrollee- ESRD Post Graft- 10+ Months.
7 = Default Enrollee Chronic Care SNP.

Space = The beneficiary is not a default enrollee.

**Detail Report**

Indicator that a Default Risk Adjustment Factor (RAFT) was used for calculating the payment or adjustment. A Default Risk Adjustment Factor (RAFT) is used only if the RAS system did not provide MMR risk scores for this beneficiary. In these cases MMRs assign a default score based upon "demographic" of the beneficiary.

1 = Default Enrollee- Aged/Disabled.  
 2 = Default Enrollee- ESRD dialysis.  
 3 = Default Enrollee- ESRD Kidney Transplant- Month 1.  
 4 = Default Enrollee- ESRD Kidney Transplant- Months 2-3.  
 5 = Default Enrollee- ESRD Post Graft- Months 4-9.  
 6 = Default Enrollee- ESRD Post Graft- 10+ Months.  
 7 = Default Enrollee Chronic Care SNP.  
 Space = The beneficiary is not a default enrollee.

The RAFT codes indicate which status was used to select the type of risk score used in calculating the monthly payment for an individual beneficiary. However, beneficiaries are given a Default Risk Factor Code when they do not have a risk score produced from RAS, the risk adjustment system.

For example, when a newly entitled beneficiary is in the CMS systems at the time CMS conducted the risk score run, they will receive a new enrollee risk score that was assigned by RAS. When a beneficiary is new to Medicare and was not in the CMS systems at the time a risk score run was conducted, a default risk score may be used.

## MMR Data Fields and Indicators

**Step 2**

Monthly Membership Detail Report (MMR)

MMR Field	MMR Indicator	Applicable Models
7 Sex		
15 ESRD		
20 Long Term Institutional (LTI) Flag		
21 Medicaid Indicator		
23 Default Factor Code		
39 Medicaid		
40 Age Group		
46 RAFT Code		
47 Frailty Indicator		
48 OREC		
84 Medicaid Dual Status		
86 Part D RAFT Code		

The demographic components applicable to the risk adjustment models are listed.

Select each field to review the indicators.

When you're done, select the Back button to return to the demographic factors menu.

### Field 7

**Step 2**

Monthly Membership Detail Report (MMR)

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				
15 ESRD				
20 Long Term Institutional (LTI) Flag	7	M	Male	
21 Medicaid Indicator	7	F	Female	
23 Default Factor Code				
39 Medicaid				
40 Age Group				
46 RAFT Code				
47 Frailty Indicator				
48 OREC				
84 Medicaid Dual Status				
86 Part D RAFT Code				

Applicable Models:

- CMS-HCC NON-ESRD
- CMS-HCC ESRD
- PACE
- RxHCC

### Field 15

**Step 2**

Monthly Membership Detail Report (MMR)

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				
15 ESRD	15	Y	ESRD	
20 Long Term Institutional (LTI) Flag	15	SPACE	No ESRD	
21 Medicaid Indicator				
23 Default Factor Code				
39 Medicaid				
40 Age Group				
46 RAFT Code				
47 Frailty Indicator				
48 OREC				
84 Medicaid Dual Status				
86 Part D RAFT Code				

Applicable Models:

- CMS-HCC ESRD

### Field 20

**Step 2**

Monthly Membership Detail Report (MMR)

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				
15 ESRD				
20 Long Term Institutional (LTI) Flag	20	Y	Part C LTI	
21 Medicaid Indicator	20	SPACE	Not LTI	
23 Default Factor Code				
39 Medicaid				
40 Age Group				
46 RAFT Code				
47 Frailty Indicator				
48 OREC				
84 Medicaid Dual Status				
86 Part D RAFT Code				

Applicable Models:

- CMS-HCC NON-ESRD
- CMS-HCC ESRD
- PACE



Field 21

**Step 2** HOME BACK

Monthly Membership Detail Report (MMR)

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				<ul style="list-style-type: none"> <li>CMS-HCC ESRD</li> </ul>
15 ESRD				
20 Long Term Institutional (LTI) Flag				
21 Medicaid Indicator	21	Y	Medicaid Add-on (RAS beneficiaries)	
23 Default Factor Code	21	SPACE	No Medicaid Add-on was used	
39 Medicaid				
40 Age Group				
46 RAFT Code				
47 Frailty Indicator				
48 OREC				
84 Medicaid Dual Status				
86 Part D RAFT Code				

Field 40

**Step 2** HOME BACK

Monthly Membership Detail Report (MMR)

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				<ul style="list-style-type: none"> <li>CMS-HCC NON-ESRD</li> <li>CMS-HCC ESRD</li> <li>PACE</li> <li>RxHCC</li> </ul>
15 ESRD				
20 Long Term Institutional (LTI) Flag				
21 Medicaid Indicator	40	BB	Beginning Age	
23 Default Factor Code	40	EE	Ending Age	
39 Medicaid				
40 Age Group				
46 RAFT Code				
47 Frailty Indicator				
48 OREC				
84 Medicaid Dual Status				
86 Part D RAFT Code				

Field 23

**Step 2** HOME BACK

Monthly Membership Detail Report (MMR)

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				<ul style="list-style-type: none"> <li>CMS-HCC NON-ESRD</li> <li>CMS-HCC ESRD</li> <li>PACE</li> </ul>
15 ESRD				
20 Long Term Institutional (LTI) Flag				
21 Medicaid Indicator	23	1	Default Enrollee (DE) - Aged/Disabled	
23 Default Factor Code	23	2	DE - ESRD Dialysis	
39 Medicaid	23	3	DE - ESRD Kidney Transplant - Month 1	
40 Age Group	23	4	DE - ESRD Kidney Transplant - Month 2-3	
46 RAFT Code	23	5	DE - ESRD Post Graft - Months 4-9	
47 Frailty Indicator	23	6	DE - ESRD Post Graft - 10+ Months	
48 OREC	23	7	DE Chronic Care SNP	
84 Medicaid Dual Status				
86 Part D RAFT Code				

Field 46

**Step 2** HOME BACK

Monthly Membership Detail Report (MMR)

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				<ul style="list-style-type: none"> <li>CMS-HCC NON-ESRD</li> <li>CMS-HCC ESRD</li> <li>PACE</li> </ul>
15 ESRD				
20 Long Term Institutional (LTI) Flag				
21 Medicaid Indicator	46	C	Community (Adjustments before 2017; PACE only beginning 1/2017 and ending 12/2019)	
23 Default Factor Code				
39 Medicaid				
40 Age Group				
46 RAFT Code	46	C1	Community Post Graft 4-9 (ESRD)	
47 Frailty Indicator	46	C2	Community Post Graft 10+ (ESRD)	
48 OREC				
84 Medicaid Dual Status				
86 Part D RAFT Code				

Field 39

**Step 2** HOME BACK

Monthly Membership Detail Report (MMR)

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				<ul style="list-style-type: none"> <li>CMS-HCC NON-ESRD</li> <li>CMS-HCC ESRD</li> <li>PACE</li> </ul>
15 ESRD				
20 Long Term Institutional (LTI) Flag				
21 Medicaid Indicator	39	1	Full or Partial	
23 Default Factor Code	39	0	Not Medicaid	
39 Medicaid	39	SPACE	Retroactive Adjustment	
40 Age Group				
46 RAFT Code				
47 Frailty Indicator				
48 OREC				
84 Medicaid Dual Status				
86 Part D RAFT Code				

Field 47

**Step 2** HOME BACK

Monthly Membership Detail Report (MMR)

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				<ul style="list-style-type: none"> <li>PACE</li> </ul>
15 ESRD				
20 Long Term Institutional (LTI) Flag				
21 Medicaid Indicator	47	Y	Frailty factor included	
23 Default Factor Code	47	N	No frailty factor	
39 Medicaid				
40 Age Group				
46 RAFT Code				
47 Frailty Indicator				
48 OREC				
84 Medicaid Dual Status				
86 Part D RAFT Code				



## Field 48

**Step 2** Monthly Membership Detail Report (MMR)

HOME BACK

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				<ul style="list-style-type: none"> <li>CMS-HCC NON-ESRD</li> <li>CMS-HCC ESRD</li> <li>PACE</li> <li>RxHCC</li> </ul>
15 ESRD	48	0	Insured due to age	
20 Long Term Institutional (LTI) Flag	48	1	Disability	
21 Medicaid Indicator	48	2	ESRD	
23 Default Factor Code	48	3	Disability and current ESRD	
39 Medicaid	48	9	None of the above	
40 Age Group				
46 RAFT Code				
47 Frailty Indicator				
48 OREC				
84 Medicaid Dual Status				
86 Part D RAFT Code				

## Field 84

**Step 2** Monthly Membership Detail Report (MMR)

HOME BACK

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				<ul style="list-style-type: none"> <li>CMS-HCC NON-ESRD</li> <li>CMS-HCC ESRD</li> <li>PACE</li> </ul>
15 ESRD	84	00	No Medicaid status	
20 Long Term Institutional (LTI) Flag	84	01	Eligible – entitled to Medicare – QMB only (Partial Dual)	
21 Medicaid Indicator				
23 Default Factor Code				
39 Medicaid				
40 Age Group	84	02	Eligible – entitled to Medicare – QMB AND Medicaid coverage (Full Dual)	
46 RAFT Code				
47 Frailty Indicator				
48 OREC				
84 Medicaid Dual Status				
86 Part D RAFT Code				

## Field 86

**Step 2** Monthly Membership Detail Report (MMR)

HOME BACK

MMR Field	MMR Indicator			Applicable Models
	Field	Indicator	Description	
7 Sex				<ul style="list-style-type: none"> <li>RxHCC</li> </ul>
15 ESRD	86	D1	Community Non-Low Income Continuing Enrollee	
20 Long Term Institutional (LTI) Flag				
21 Medicaid Indicator	86	D2	Community Low Income Continuing Enrollee	
23 Default Factor Code				
39 Medicaid	86	D3	Institutional Continuing Enrollee	
40 Age Group				
46 RAFT Code				
47 Frailty Indicator				
48 OREC				
84 Medicaid Dual Status	86	D4	New Enrollee Community	
86 Part D RAFT Code				

## Disease Information

**Step 2** Disease Information

HOME

- HCCs, RxHCCs, and Hierarchies
- Disease and Disabled Interactions
- Post Graft Add-On and Transplant Factors (ESRD only)

MOR

The disease portion of the risk score is based on HCCs or RxHCCs and any disease and disabled interactions.

There are also post graft add-on factors applicable to beneficiaries with ESRD who have received a transplant and are in post graft status.

Select each button to learn more.

At any time, you may click the MOR button to review the MOR report fields, and descriptions which are also outlined in the PCUG.

When you are finished exploring, select the Next button to return to the Step 2 menu or select Home to return to the main menu.

## HCCs, RxHCCs, and Hierarchies

**Disease Information**

HOME BACK

- HCCs, RxHCCs, and Hierarchies

MOR accounts for:

- Hierarchies
- HCCs or RxHCCs that are applicable to the risk score used in payment

The screenshot shows a Medicare Member Detail Report with columns for Field, Indicator, and Description. It lists various HCCs and RxHCCs used for risk scoring.

The Part C and ESRD MORs provide the HCCs that CMS uses to calculate risk scores for each beneficiary.

There is a separate Part D MOR that provides the RxHCCs that CMS uses to calculate Part D risk scores. The MOR already accounts for hierarchies, and only indicates HCCs or RxHCCs that are applicable to the risk score used in payment.

**Disease Information**  
HCCs, RxHCCs, and Hierarchies

Address situations when multiple levels of severity for a disease have been reported for a beneficiary.

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 or RxHCCs where diagnoses are clinically related and ranked by costs.

**Disease Information**  
HCCs, RxHCCs, and Hierarchies

Hierarchical Condition Category (HCC)	If the Disease Group is Listed in this column...	...Then drop the Disease Groups listed in this column
8	Melanoma, Cancer and Acute Leukemia	9, 10, 11, 12
9	Lung and Other Serious Cancers	10, 11, 12
10	Lymphomas and Other Cancers	11, 12
11	Cerebrovascular, Bladder, and Other Cancers	12
12	Diabetes with Acute Complications	18, 19
13	Diabetes with Chronic Complications	19
14	End Stage Liver Disease	26, 29, 40
15	Arthritis of Joint	29
16	Acute Hemorrhoidal Disorders	48
17	Hemostasis With Complications	52
18	Substance Use with Psychiatric Complications	55, 56
19	Substance Use Disorder, Moderate/Severe, or Substance Use with Complications	56
20	Schizophrenia	58, 59, 60
21	Reactive and Unspecified Psychosis	59, 60
22	Major Depressive, Bipolar, and Paranoid Disorders	60
23	Conducting	71, 72, 103, 104, 105
24	Paraplegia	72, 104, 105
25	Central Nervous System Lesions	68

If you are calculating risk scores and wondering why a specific HCC or RxHCC was not incorporated into the calculation, check the disease hierarchy list in the relevant Rate Announcement to determine whether that HCC or RxHCC is in a hierarchy. If so, check where the missing HCC or RxHCC is in relation to the one incorporated in the payment risk score. Most likely, the HCC or

RxHCC that was incorporated superseded the one that was not included.

**Disease Information**  
HCCs, RxHCCs, and Hierarchies

**Hierarchies**

- Map the applicable diagnoses to the HCCs and RxHCCs in the appropriate model.
- Use this information to calculate the beneficiary's risk score.
  - Verify if a hierarchy exists.
  - Apply it only to the most severe manifestation of the condition in the hierarchy.

Alternatively, you may use your internal database of accepted diagnoses for a beneficiary, map the diagnoses to the payment HCCs and RxHCCs in the appropriate model, and then use this information to calculate the beneficiary's risk score. When using this method, be sure to verify if a hierarchy exists and then include the relative factor only for the most severe manifestation of the condition in the hierarchy in the risk score calculation. Remember, hierarchies are published in the Rate Announcement, along with the relative factors, when a model is updated or recalibrated.

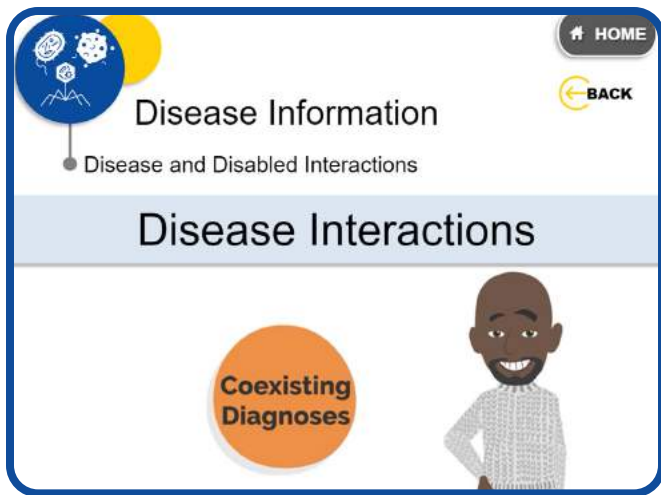
### Disease and Disabled Interactions

**Disease Information**  
Disease and Disabled Interactions

**MODELS INCLUDE**

Relative factors for interactions with certain conditions when the presence of another disease or demographic status, such as disabled status, is indicative of higher costs.

The models include relative factors for interactions with certain conditions when the presence of another disease or demographic status, such as disabled status, is indicative of higher costs.



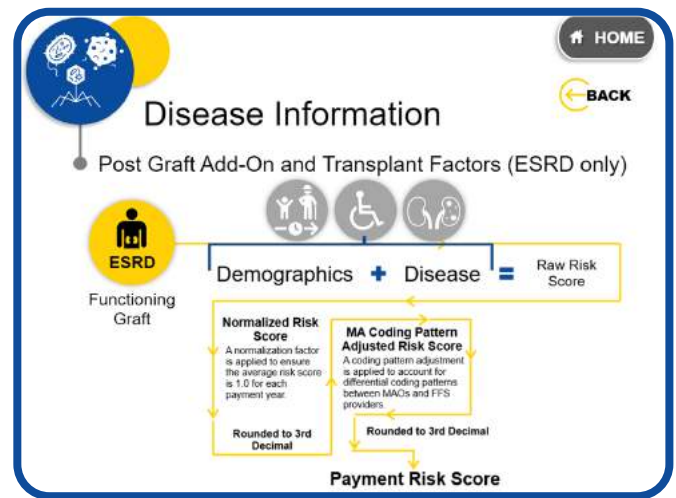
Disease Interactions – Certain combinations of coexisting diagnoses for an individual can increase medical costs more than the additive nature of the CMS-HCC model predicts.



Disabled Interactions – Interactions between certain diseases and disabled status for an enrollee can also increase medical costs more than the additive nature of the CMS-HCC model predicts.

For risk score calculation, the disease and disabled interaction relative factors are added to the demographic and disease relative factors.

## Post Graft Add-On and Transplant Factors (ESRD only)



If the beneficiary's risk score is calculated using the ESRD functioning graft model, then they receive an additional factor based on a combination of his or her aged and disabled status and the duration since the transplant was performed. This factor is added to the other relative factors.

The screenshot shows a mobile application interface with a table of Post Graft Add-On and Transplant Factors (ESRD only). The table has two columns: 'Code' and 'Description'. The 'Code' column contains codes like C1, I1, G1, G2, I, I1, I2, SE, and PA. The 'Description' column contains corresponding descriptions for each code. Two rows are highlighted with orange boxes: C1 = Community Post Graft 4-9 (ESRD) and I1 = Institutional Post Graft 4-9 (ESRD). A legend on the right side of the table explains the codes: C = Community (Adjustments before 2017; PACE only beginning 1/2017 and ending 12/2019), C1 = Community Post Graft 4-9 (ESRD), C2 = Community Post Graft 10+ (ESRD), CF = Community Full Dual, CP = Community Partial Dual, CN = Community Non-Dual, D = Dialysis (ESRD), E = New Enrollee, ED = New Enrollee Dialysis (ESRD), I = Institutional, I1 = Institutional Post Graft 4-9 (ESRD), I2 = Institutional Post Graft 10+ (ESRD), SE = New Enrollee Chronic Care SNP, and PA = PACE Diabetes Factor.

You may determine which functioning graft factor applies to the beneficiary using the RAFT code. RAFT codes with Post Graft 4-9 in the field name description signify that it has been between 4–9 months since the transplant, and functioning graft RAFT codes ending in 2 (C2 and I2) signify that it has been 10 or more months since the transplant.



**Disease Information**

Post Graft Add-On and Transplant Factors (ESRD only)

Risk Adjustment Factor Type Code	Value	Description
C2	189-190	Community Post Graft 10+ (ESRD)
I2		Institutional Post Graft 10+ (ESRD)

**Disease Information**

Post Graft Add-On and Transplant Factors (ESRD only)

Risk Adjustment Factor Type Code	Value	Description
G1		Graft I (ESRD)
G2		Graft II (ESRD)

If the beneficiary risk score is calculated using the transplant segment of the ESRD model, the RAFT code will include Graft I or Graft II in the field name description. Transplant payments are calculated by multiplying the transplant factor by the ESRD dialysis state rate.

## Model Output Report (MOR)

**Step 2**

Model Output Report (MOR)

7.10.2 Part C Risk Adjustment Model Output Report

Part C/ESRD MOR

7.10.3 RAS RxHCC Model Output Report

RxHCC MOR

For Part C and ESRD, plans can determine the HCCs and interactions used for risk score calculation using the Part C and ESRD MORs, respectively.

For Part D, plans can determine the RxHCCs and interactions used for risk score calculation using the Part D MOR.

CMS populates the MOR with payment HCCs or RxHCCs, and it does not include any HCCs or RxHCCs that are dropped due to the application of the hierarchies. So if you are calculating the risk score based on information from the MOR, it is not necessary to assess whether to drop HCCs based on hierarchies.

Select each button to explore each report.

When you are done, select the Back button to return to the disease factors menu.



Part C/ESRD MOR

RxHCC MOR

**Step 2**  
Model Output Report (MOR)

HOME BACK

RUN DATE: YYYYMMDD	PAYMENT MONTH: YYYYMM	LAST NAME	FIRST NAME	PLAN: HXXX PLAN NAME	DATE OF BIRTH	SEX & AGE GROUP	ESRD	PAGE: 1	RAPRODCA
123456789A	DOE	JANE			19200627	Female85-GT	N		

V02 HCC DISEASE GROUPS: HCC018 Diabetes with chronic complications  
HCC021 Protein-calorie malnutrition  
HCC019 Major depressive, bipolar, and paranoid disorders  
HCC108 Vascular Disease

RNKC216 Peripheral vascular Disease

Select each button to highlight key information.

**Step 2**  
Model Output Report (MOR)

HOME BACK

RUN DATE: YYYYMMDD	PAYMENT MONTH: YYYYMM	LAST NAME	FIRST NAME	PLAN: HXXX PLAN NAME	DATE OF BIRTH	SEX & AGE GROUP	ESRD	PAGE: 1	RAPRODCA
123456789A	DOE	JANE			19200627	Female85-GT	N		

V02 HCC DISEASE GROUPS: HCC018 Diabetes with chronic complications  
HCC021 Protein-calorie malnutrition  
HCC019 Major depressive, bipolar, and paranoid disorders  
HCC108 Vascular Disease

RNKC216 Peripheral vascular Disease

Select each button to highlight key information.

Select each button to highlight key information.

Select each button to highlight key information.

**Step 2**  
Model Output Report (MOR)

HOME BACK

RUN DATE: YYYYMMDD	PAYMENT MONTH: YYYYMM	LAST NAME	FIRST NAME	PLAN: HXXX PLAN NAME	DATE OF BIRTH	SEX & AGE GROUP	ESRD	PAGE: 1	RAPRODCA
123456789A	DOE	JANE			19200627	Female85-GT	N		

V02 HCC DISEASE GROUPS: HCC018 Diabetes with chronic complications  
HCC021 Protein-calorie malnutrition  
HCC019 Major depressive, bipolar, and paranoid disorders  
HCC108 Vascular Disease

RNKC216 Peripheral vascular Disease

Sex and Age Group  
Female85-GT

Select each button to highlight key information.

**Step 2**  
Model Output Report (MOR)

HOME BACK

HXXXXX  
Contract ID

RUN DATE: YYYYMMDD	PAYMENT MONTH: YYYYMM	LAST NAME	FIRST NAME	PLAN: HXXX PLAN NAME	DATE OF BIRTH	SEX & AGE GROUP	ESRD	PAGE: 1	RAPRODCA
123456789A	DOE	JANE			19200627	Female85-GT	N		

V02 HCC DISEASE GROUPS: HCC018 Diabetes with chronic complications  
HCC021 Protein-calorie malnutrition  
HCC019 Major depressive, bipolar, and paranoid disorders  
HCC108 Vascular Disease

RNKC216 Peripheral vascular Disease

Select each button to highlight key information.

Select each button to highlight key information.

Select each button to highlight key information.

**Step 2**  
Model Output Report (MOR)

HOME BACK

RUN DATE: YYYYMMDD	PAYMENT MONTH: YYYYMM	LAST NAME	FIRST NAME	PLAN: HXXX PLAN NAME	DATE OF BIRTH	SEX & AGE GROUP	ESRD	PAGE: 1	RAPRODCA
123456789A	DOE	JANE			19200627	Female85-GT	N		

V02 HCC DISEASE GROUPS: HCC018 Diabetes with chronic complications  
HCC021 Protein-calorie malnutrition  
HCC019 Major depressive, bipolar, and paranoid disorders  
HCC108 Vascular Disease

RNKC216 Peripheral vascular Disease

ESRD Indicator  
N

Select each button to highlight key information.

**Step 2**  
Model Output Report (MOR)

HOME BACK

RUN DATE: YYYYMMDD	PAYMENT MONTH: YYYYMM	LAST NAME	FIRST NAME	PLAN: HXXX PLAN NAME	DATE OF BIRTH	SEX & AGE GROUP	ESRD	PAGE: 1	RAPRODCA
123456789A	DOE	JANE			19200627	Female85-GT	N		

V02 HCC DISEASE GROUPS: HCC018 Diabetes with chronic complications  
HCC021 Protein-calorie malnutrition  
HCC019 Major depressive, bipolar, and paranoid disorders  
HCC108 Vascular Disease

RNKC216 Peripheral vascular Disease

Age and Sex Group  
Female85-GT

Select each button to highlight key information.

Select each button to highlight key information.

Select each button to highlight key information.

## What's Next

### Step 2

#### What's Next

Demographic Information, Other Payment Information

- Age and Sex
- Original Reasons for Entitlement (OREC)
- Long Term Institutional (LTI) Status
- Medicaid Dual Status
- End Stage Renal Disease (ESRD) Codes
- Frailty Codes
- Risk Adjustment Factor (RAFT) Codes

Disease Information

- HCCs, RxHCCs, and Hierarchies
- Disease and Disabled Interactions
- Post-Graft Add On and transplant Factors (ESRD only)

The demographic factors, including beneficiary status indicators, and disease factors provide all the information necessary to identify the model and model segment that should be used to calculate the risk score.

Now you know how to identify pertinent risk score information on the MMR, including determining the model and segment that applies to your beneficiary.

In Step 3, you will be taking these demographic and disease factors and using the applicable Rate Announcement to look up the specific relative factor values.

## Step 3: Identify Relative Factors and Adjustment Factors

### Step 3

#### Identify Relative Factors and Adjustment Factors

Layout 6-1: Monthly Membership Detail Report

Item	Field	Size	Position	Description
1	Contract Number			
2	Run Date			
3	Payment Date			
4	Beneficiary ID			

You just learned where to find information in the MMR and MOR. Now you are going to learn how to use the Rate Announcement to gather relative factor values.

### Step 3

#### Identify Relative Factors and Adjustment Factors

NOTE TO: Medicare Advantage Organizations, Prescription Drug Plan Sponsors, and Other Interested Parties

Announcement of Calendar Year (CY)YYYY Medicare Advantage Capitation Rates and Medicare Advantage and Part D Payment Policies and Final Call Letter

CMS received many submissions in response to our request for comments on Part I of the Advance Notice, published on 10/26/2018, and Part II of the Advance Notice/Draft Call Letter, published on 10/26/2018. Comments were received from professional organizations, Medicare Advantage (MA) and Part D sponsors, advocacy groups, state Medicaid agencies, pharmaceutical manufacturers, pharmacy benefit managers, pharmacies, and concerned citizens. In response to the comments, we made a number of changes in the Rate Announcement and Call Letter that reflect CMS's continued commitment to providing Medicare Advantage Organizations and Part D Plan Sponsors with the flexibility to develop and implement innovative approaches for providing Medicare benefits to enrollees and empowering enrollees. CMS expects the additional flexibility will result in additional and more affordable plan choices for Medicare beneficiaries. CMS is committed to exploring other avenues for simplifying and transforming the MA and Part D programs in order to encourage innovation and expand beneficiary choice, and is looking forward to working with stakeholders to achieve these shared goals.

In accordance with section 1853(b)(1) of the Social Security Act, we are notifying you of the annual capitation rate for each MA payment area for CYYYYY and the risk and other factors to be used in adjusting such rates. The capitation rate tables for YYYY and supporting data are posted on the CMS website at <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvantage/Rate-Setting/Ratebooks-and-Supporting-Data.html>. The statutory component of the regional benchmarks, qualifying counties, and each county's applicable concentration are also posted on this section of the CMS website.

You start by determining which payment year applies. The MMR discussed in Step 2 also specifies the appropriate payment month and year in field 3, Payment Date. You can find the Rate Announcement applicable to that payment year on the Medicare Advantage Rates and Statistics page on the cms.gov website and as mentioned in the Resources section of this training.

Next, you need to determine what model to use.

## Step 3

### Identify Relative Factors and Adjustment Factors

HOME

**Key Changes from the Advance Notice:**

**Growth Percentages:** Attachment I provides the final estimates of the National Per Capita MA Growth Percentage and the FFS Growth Percentage and information on deductibles for MSAs.

**Calculation of FFS Cost:** The Secretary has directed the CMS Office of the Actuary to adjust the fee-for-service experience for beneficiaries enrolled in Puerto Rico to reflect the propensity of zero dollar beneficiaries nationwide.

In addition, we are specifying the inclusion of certain fees paid in one CMS Innovation Center model in our adjustment of historical FFS claims experience. We stated in the Advance Notice that care management fees would not be accounted for in the adjustments to historical FFS experience when they were funded from other sources (that is, when they're not funded by Medicare Trust Funds). Specifically, we note that since the care management fees for the Comprehensive Primary Care Plus (CPC+) model are paid out of the Part B Trust Fund, the CPC+ model care management fees will be included in the adjustments to historical FFS claims experience, consistent with the approach described in the Advance Notice.

**CMS-HCC Risk Adjustment Model:** For YYYY CMS will use the alternative payment condition count (APCC) model for the blended risk score calculation; this model includes additional HCCs for Dementia and Pressure Ulcers as well as variables that take into account the number of conditions a beneficiary may have. Therefore, for YYYY we will calculate risk scores as proposed, but with the alternative payment condition count model described in Part I of the YYYY Advance Notice.

In the applicable year's Rate Announcement, there will be a section that highlights the key changes for each model. Read this section carefully and refer to it as you proceed.

## Step 3

### Identify Relative Factors and Adjustment Factors

HOME

**NOTE TO: Medicare Advantage Organizations, Prescription Drug Plan Sponsors, and Other Interested Parties**  
**Announcement of Calendar Year (CY) YYYY Medicare Advantage Capitation Rates and Part D Payment Policies and Part C All Letter**  
 CMS received many submissions in response to our request for comments on Part I of the Advance Notice (Dual Eligible) and Part II of the Advance Notice (Dual Eligible) on Medicare Advantage and Part D sponsors, advisory groups, and interested parties. Comments were received from professional associations, industry groups, and interested parties. CMS will consider all comments in the Rate Announcement.

Variable	Description Label	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Institutional
Female								
0-34 Years		-	0.341	-	0.349	-	0.363	
35-44 Years		-	0.315	-	0.349	-	0.414	
45-54 Years		-	0.340	-	0.374	-	0.418	
55-64 Years		-	0.379	-	0.424	-	0.424	
65-69 Years		-	0.425	-	0.491	-	0.412	
70-74 Years		0.323	-	0.441	-	0.319	-	
75-79 Years		0.380	-	0.319	-	0.406	-	
80-84 Years		0.471	-	0.193	-	0.476	-	
85-89 Years		0.528	-	0.116	-	0.550	-	
90-94 Years		0.643	-	0.065	-	0.653	-	
95-99 Years		0.783	-	0.007	-	0.783	-	
95 Years or Over		0.747	-	1.001	-	0.873	-	

You already used the MMR to determine all the demographic factors that apply to a particular beneficiary, which will indicate the model and segment that applies.

Now you will use those indicators and refer to the appropriate model and segment relative factor table in the Rate Announcement.

Note that relative factor tables that pertain to a model are published in the Rate Announcement for the year in which the model was first implemented.

## Step 3

### Identify Relative Factors and Adjustment Factors

HOME

Variable	Description Label	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Institutional
Female								
0-34 Years		-	0.341	-	0.349	-	0.363	0.907
35-44 Years		-	0.315	-	0.349	-	0.414	1.014
45-54 Years		-	0.340	-	0.374	-	0.418	0.982
55-64 Years		-	0.379	-	0.424	-	0.424	0.709
65-69 Years		0.782	-	0.697	-	0.763	-	0.608
70-74 Years		0.707	-	1.041	-	0.973	-	0.501
75-79 Years		-	0.110	-	0.100	-	0.100	1.101
80-84 Years		-	0.199	-	0.232	-	0.232	1.002
85-89 Years		-	0.241	-	0.307	-	0.313	0.968
90-94 Years		-	0.287	-	0.402	-	0.340	1.037
95-99 Years		-	0.308	-	0.491	-	0.470	1.041
95 Years or Over		0.308	-	0.491	-	0.470	-	1.041
Male								
0-34 Years		-	0.110	-	0.100	-	0.100	1.101
35-44 Years		-	0.199	-	0.232	-	0.232	1.002
45-54 Years		-	0.241	-	0.307	-	0.313	0.968
55-64 Years		-	0.287	-	0.402	-	0.340	1.037
65-69 Years		0.308	-	0.491	-	0.470	-	1.041
70-74 Years		0.304	-	0.680	-	0.427	-	1.120
75-79 Years		0.471	-	0.716	-	0.590	-	1.117
80-84 Years		0.616	-	0.603	-	0.564	-	1.207
85-89 Years		0.690	-	1.000	-	0.670	-	1.122
90-94 Years		0.841	-	1.042	-	0.814	-	0.981
95-99 Years		0.866	-	1.267	-	1.047	-	0.921
95 Years or Over		0.866	-	1.267	-	1.047	-	0.921

Medicaid and Originally Disabled Interactions Example for PY 2022

Once you have identified the appropriate risk adjustment model relative factor table, you will look up the relative factor values that correspond to a beneficiary's model segment and demographic indicators. For example, you need to use your beneficiary's age and sex from the left column, and model segment from the top row (as shown in the table columns which indicate the beneficiary is either institutionalized or in a community and whether Medicaid eligible, and aged or disabled) to find the demographic relative factor values.

## Step 3

### Identify Relative Factors and Adjustment Factors

HOME

Variable	Description Label	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Institutional
Female								
0-34 Years		-	0.341	-	0.349	-	0.363	0.907
35-44 Years		-	0.315	-	0.349	-	0.414	1.014
45-54 Years		-	0.340	-	0.374	-	0.418	0.982
55-64 Years		-	0.379	-	0.424	-	0.424	0.709
65-69 Years		0.782	-	0.697	-	0.763	-	0.608
70-74 Years		0.707	-	1.041	-	0.973	-	0.501
75-79 Years		-	0.110	-	0.100	-	0.100	1.101
80-84 Years		-	0.199	-	0.232	-	0.232	1.002
85-89 Years		-	0.241	-	0.307	-	0.313	0.968
90-94 Years		-	0.287	-	0.402	-	0.340	1.037
95-99 Years		-	0.308	-	0.491	-	0.470	1.041
95 Years or Over		0.308	-	0.491	-	0.470	-	1.041
Male								
0-34 Years		-	0.110	-	0.100	-	0.100	1.101
35-44 Years		-	0.199	-	0.232	-	0.232	1.002
45-54 Years		-	0.241	-	0.307	-	0.313	0.968
55-64 Years		-	0.287	-	0.402	-	0.340	1.037
65-69 Years		0.308	-	0.491	-	0.470	-	1.041
70-74 Years		0.304	-	0.680	-	0.427	-	1.120
75-79 Years		0.471	-	0.716	-	0.590	-	1.117
80-84 Years		0.616	-	0.603	-	0.564	-	1.207
85-89 Years		0.690	-	1.000	-	0.670	-	1.122
90-94 Years		0.841	-	1.042	-	0.814	-	0.981
95-99 Years		0.866	-	1.267	-	1.047	-	0.921
95 Years or Over		0.866	-	1.267	-	1.047	-	0.921

Medicaid and Originally Disabled Interactions Example for PY 2022

For example, a 77-year-old female beneficiary living in the community who is not Medicaid eligible and was originally entitled to Medicare due to her age would have a value of 0.451 for the age-sex relative factor.

If there are Medicaid or Originally Disabled Interactions, you will need those relative factor values as well.

You will use the demographic relative factor values that



you found here in the next step when you calculate the Raw Risk Score.

Next, you will use the information you gathered from the MOR to determine the disease portion of a beneficiary's risk score. You will reference the same relative factor table and model segment used for the demographic factors to look up the beneficiary's HCCs or RxHCCs.

For example, if a beneficiary has chronic hepatitis listed in the MOR, then you will retrieve the relative factor value for that HCC.

HCC	Relative Factor
HCC029	0.147

Let's return to our previous example of the 77-year-old female living in the community, who is not Medicaid eligible and was originally entitled to Medicare due to age, and who is diagnosed with Chronic Hepatitis, HCC29. The relative factor value for this diagnosis would be 0.147 in the same relative factor table that you referenced for the age-sex relative factor.

If there are any disease or disabled and disease interactions, you will retrieve those relative factor values as well.

So far, you have used the MOR, MMR, and Rate Announcement to gather all the demographic and disease relative factors. Finally, you will need to gather the adjustment factors, including the normalization factor and, if applicable, the MA coding pattern adjustment factor, which are in the Rate Announcement for the relevant payment year.

Now you know how to translate the pertinent risk score information on the MMR and MOR to the specific relative factor values. You have also gathered the adjustment factors that will be applied.

In Step 4, you will be using these relative factor values and adjustment factors to calculate the beneficiary's risk score.



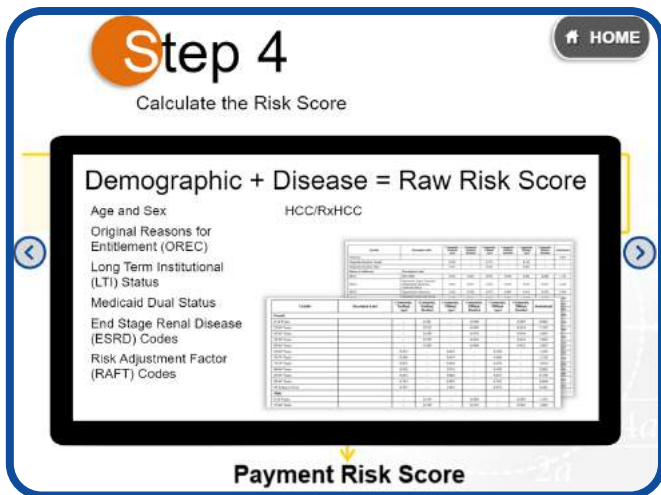
## Step 4: Calculate the Risk Score



To calculate the Payment Risk Score, follow steps A, B, and C.

Select each to learn more.

### Step A: Raw Risk Score



To calculate the Payment Risk Score, you must first calculate the Raw Risk Score. This requires adding all the demographic relative factor values to the disease relative factor values you looked up in Step 3. This will give you your Raw Risk Score.

### Step B: Normalized Risk Score

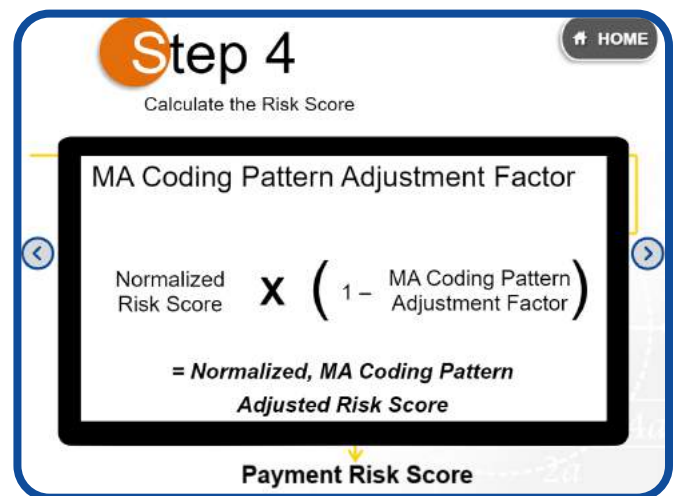


Next, a normalization factor is applied to keep the average risk score for all beneficiaries at 1.0 in the payment year.

Divide the Raw Risk Score by the applicable model's normalization factor, which is in the appropriate payment year's Rate Announcement.

Round the number calculated to the third decimal.

### Step C: MA Coding Pattern Adjusted Risk Score

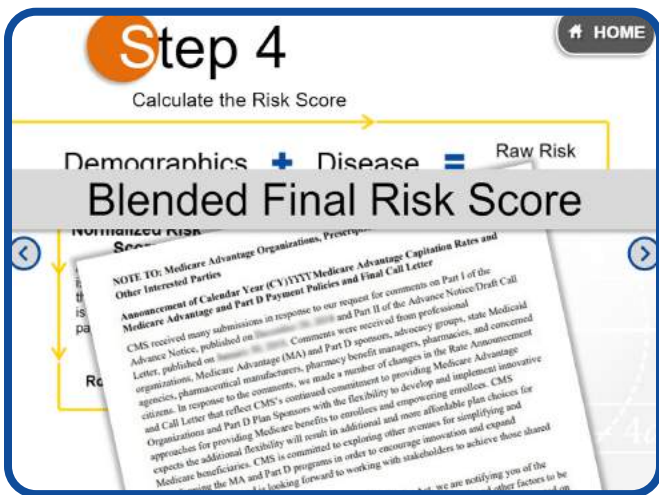


Next, you will use the Rate Announcement to determine the MA coding pattern adjustment factor for the appropriate payment year. You will then multiply the Rounded Normalized Risk Score by 1 minus the MA coding pattern adjustment factor. The result is the Normalized, MA Coding Pattern Adjusted Risk Score.



Finally, round the Normalized, MA Coding Pattern Adjusted Risk Score to the third decimal point to determine the Final Payment Risk Score.

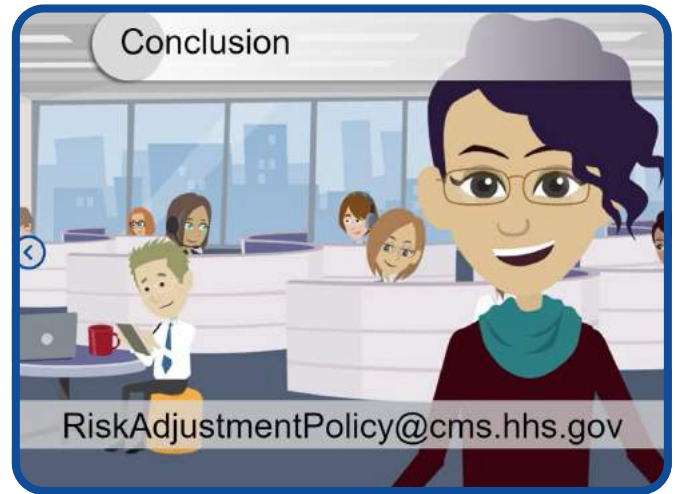
### Blended Final Risk Score



For payment years where a blended final risk score is being calculated, the blending percentages will be found in the applicable Rate Announcement in the section that discusses each risk adjustment model.

Beginning in 2022, the Medicare Advantage non-PACE risk scores will be calculated using diagnoses solely from encounter data.

## Conclusion



Now that you are familiar with the 4 steps necessary to calculate a risk score, future Risk Adjustment modules will further explore the risk score calculations for the Part C and Part D models for a variety of payment years.

The scenarios you will go through describe a beneficiary's specific demographic, other payment, and disease information. Next, you will follow a step-by-step demonstration of the risk score calculation using the appropriate Rate Announcement information for that model, model segment, and payment year for the example beneficiary.

If you have questions or suggestions regarding the series of Risk Adjustment computer-based trainings, you can submit them to [RiskAdjustmentPolicy@cms.hhs.gov](mailto:RiskAdjustmentPolicy@cms.hhs.gov).

# Applying the Risk Score Formula



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## Introduction



Welcome to Module 3 of the Risk Adjustment Methodology series.

In this module, we will walk you through the four-step process of calculating a beneficiary's risk score for Payment Year 2022.

You'll be presented with four scenarios, each scenario representing one of the four models covered in Module 2: Risk Score Calculation.

For each scenario, we will show you how to identify which risk adjustment payment model to use, how to find your beneficiary's relative factors and adjustment factors, and how to calculate a beneficiary's risk score using the risk adjustment formula.

Please note that if you have little to no experience calculating risk scores, we recommend walking through all four scenarios.

Select the NEXT button to continue.

## Scenario Selection



It's time to pick your scenario. Select the name of each beneficiary to learn more.

## Click on Scenario Icon to Review

Review the scenarios in order by continuing to the next page OR click on the Start Scenario button below each example beneficiary to proceed to a specific scenario.

At the end of each scenario, select the Choose Scenario button to return to this page.

### Mr. Carter Part C (non-ESRD)



⇒ START SCENARIO

### Ms. Price Part C (PACE)



⇒ START SCENARIO

### Ms. Ellis Part C (ESRD)



⇒ START SCENARIO

### Mr. Daniels Part D (RxHCC)



⇒ START SCENARIO

# Scenario 1: Part C (NON-ESRD)

**Mr. Carter**  
PART C (NON-ESRD)

Meet Mr. Carter, who is age 81 and lives at home.

This scenario demonstrates how to calculate a risk score for a Part C beneficiary who is not in End-Stage Renal Disease (or ESRD) status.

← BACK

START SCENARIO

Meet Mr. Carter, who is age 81 and lives at home.

This scenario demonstrates how to calculate a risk score for a Part C beneficiary who is not in End-Stage Renal Disease (or ESRD) status.

To begin the process of calculating Mr. Carter's risk score, select the START SCENARIO button. To choose another scenario, select the BACK button at the top right of your screen.

**S1 Risk Score Calculation**  
Part C (non-ESRD) Beneficiary

Mr. Carter

STEP 1: Gather reports and resources

STEP 2: Identify demographic and disease information

STEP 3: Identify relative factors and adjustment factors

STEP 4: Calculate the risk score

RESOURCES

Ready to walk through the process of calculating Mr. Carter's risk score?

Select the STEP 1 button to begin.

## Step 1: Gather Reports & Resources

**STEP 1 Gather Reports & Resources**  
Part C (non-ESRD) Beneficiary

To accurately calculate Mr. Carter's risk score, you will need the following reports and resources:

- Monthly Membership Detail Report (MMR)
- Model Output Report (MOR)
- Plan Communication User Guide (PCUG)
- Annual Rate Announcement(s)

RESOURCES

To accurately calculate Mr. Carter's risk score, the first step in the process is to gather all the reports and resources you will need which you can now access by selecting the RESOURCES button at the bottom of your screen.

These reports and resources include the Monthly Membership Detail Report (or MMR), the Model Output Report (or MOR), the Plan Communication User Guide (or PCUG), and the Annual Rate Announcement.

Please select the NEXT button to continue.

## Monthly Membership Detail Report

**STEP 1 Gather Reports & Resources**  
Part C (non-ESRD) Beneficiary

To accurately calculate Mr. Carter's risk score, you will need the following reports and resources:

**Monthly Membership Detail Report (MMR)**

The Monthly Membership Detail Report provides Plans with beneficiary demographic and status information that was used for risk score calculation for a specific payment month. You will need the data found in this report to complete Step 3 of the risk score calculation process.

- Annual Rate Announcement(s)

RESOURCES

The Monthly Membership Detail Report provides Plans with beneficiary demographic and status information that was used for risk score calculation for a specific payment month. You will need the data found in this report to complete Step 3 of the risk score calculation process.



## Model Output Report

**STEP 1** Gather Reports & Resources MENU

Part C (non-ESRD) Beneficiary

To accurately calculate Mr. Carter's risk score, you will need the following resources:

- Monthly
- Model Output Report (MOR) i
- Plan Communication User Guide (PCUG) i
- Annual Rate Announcement(s)

**Model Output Report (MOR)**  
Recall from Module 2 that the Model Output Report is a monthly report that lists the diseases applicable to each beneficiary. You will need the data from this report to complete Step 3 in the risk score calculation process.

RESOURCES

Recall from Module 2 that the Model Output Report is a monthly report that lists the diseases applicable to each beneficiary. You will need the data from this report to complete Step 3 in the risk score calculation process.

## Plan Communication User Guide

**STEP 1** Gather Reports & Resources MENU

Part C (non-ESRD) Beneficiary

To accurately calculate Mr. Carter's risk score, you will need the following resources:

- M
- M
- Plan Communication User Guide (PCUG) i
- Annual Rate Announcement(s)

**Plan Communication User Guide (PCUG)**  
The PCUG provides layout and field description information for the MMR and MOR.

RESOURCES

The PCUG provides layout and field description information for the MMR and MOR.

## Annual Rate Announcement

SHOW ME

To ensure that you are entering correct data into the risk score calculation formula, first you must verify which payment year your risk score calculation should be based on. For this scenario, Mr. Carter's risk score calculations will be based on Payment Year 2022.

You will therefore need to refer to the 2022 Rate Announcement to determine which risk adjustment payment model to use.

Select the SHOW ME button to learn how.

**RATE ANNOUNCEMENT(S)**

January 15, 2021

**NOTE TO: Medicare Advantage Organizations, Prescription Drug Plan Sponsors, and Other Interested Parties**

**Announcement of Calendar Year (CY) 2022 Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies**

In accordance with section 1853(b)(1) of the Social Security Act, we are notifying you of the annual capitation rate for each Medicare Advantage (MA) payment area for CY 2022 and the risk and other factors to be used in adjusting such rates.

CMS received many submissions in response to our request for comments on Part I of the Advance Notice of Methodological Changes for CY 2022 MA Capitation Rates and Part C and Part D Payment Policies (CY 2022 Advance Notice), published on September 14, 2020, and Part II of the CY 2022 Advance Notice, published on October 30, 2020. Commenters included professional organizations, MA and Part D sponsors, advocacy groups, state Medicaid agencies, pharmaceutical manufacturers, pharmacy benefit managers, pharmacies, and interested persons. After considering all comments received, we are finalizing a number of policies in the Announcement of CY 2022 MA Capitation Rates and Part C and Part D Payment Policies (CY 2022 Rate Announcement) that reflect CMS' continued commitment to providing MA organizations and Part D plan sponsors with the flexibility to develop and implement innovative approaches, as well as offer more affordable plan choices, to care for and empower Medicare

RESOURCES

To verify which risk adjustment payment model you'll need to use for 2022 risk score calculation, open up the 2022 Rate Announcement and scroll to the section that describes the CMS-HCC Risk Adjustment Model. The information in this section states that CMS completed the phasing in of the model implemented in 2020. Therefore, 100 percent of the risk score will be calculated using the 2020 CMS-HCC model for non-PACE organizations.

Since we will be using the 2020 CMS-HCC model to calculate Mr. Carter’s risk score, we will also need to refer to the 2020 Rate Announcement to look up his demographic and disease relative factors. This information is required to complete Step 3 of the risk score calculation process.

Select the NEXT button to continue.

## Step 2: Identify Demographics & Disease Information



The next step in the risk score calculation process involves gathering Mr. Carter’s demographics and disease information.

Please select each button below to learn more. When you have finished reviewing each section, select the NEXT button to continue.

## Demographic Factors

MMR Field #	Demographic/Model Indicator	Value
7	Sex	M
20	Part C LTI	<SPACE>
23	Default Risk Factor Code	<SPACE>
39	Medicaid	1
40	Age	80-84
46	RAFT Code	CF
47	Frailty Indicator	N
48	OREC	0
84	Medicaid Dual Status	2

To gather Mr. Carter’s demographic information, you will need to reference the Monthly Membership Detail Report.

The highlighted data shown on this MMR table are required demographic and model indicators that you will need to compute the sum of Mr. Carter’s demographic relative factors during Step 3 of this process.

The “M” value in field 7 indicates that this beneficiary is a male.

The <SPACE> value in field 20 indicates that this beneficiary does not reside in a long-term institution.

The <SPACE> value in field 23 indicates that this beneficiary did not receive a default score.

The number “1” value in field 39 indicates that this beneficiary has Medicaid and is either full or partial dual.

The value in field 40 indicates that this beneficiary is in the 80–84 age group.

The “CF” RAFT Code value in field 46 indicates that this beneficiary is categorized as Community Full Dual, which means he lives in the community, is enrolled in Medicare, and receives full Medicaid benefits.

The “N” value in field 47 indicates that this beneficiary does not have Frailty status.

The number “0” value in field 48 indicates that this beneficiary is Medicare eligible due to age.

Finally, the number “2” value in field 84 confirms both the values in fields 39 and 46, that this beneficiary is in fact full dual.

## Disease Factors

**STEP 2 Identify Demographic & Disease Information**

Part C (non-ESRD) Beneficiary

**DISEASE FACTORS**

**Model Output Report (MOR)**

1 RUN DATE: 20220608 RISK ADJUSTMENT MODEL OUTPUT REPORT  
 PAYMENT MONTH: 202207 PLAN: H0000  
 MBL: LAST NAME FIRST NAME DATE OF BIRTH SEX & AGE GROUP ESRD  
 000000000 CARTER E YYYYMMDD Male 80 - 84 N  
 HCC DISEASE GROUPS: HCC019 Diabetes without complications  
 HCC111 Chronic obstructive pulmonary disease

**CLOSE**

To gather Mr. Carter’s disease information, or HCCs, you will need to reference the Model Output Report.

Take a moment to review Mr. Carter’s information shown on your screen. Notice that the payment HCCs identified for this beneficiary are HCC19, Diabetes Without Complications, and HCC111, Chronic Obstructive Pulmonary Disease. You will need this information when computing the sum of Mr. Carter’s disease relative factors in Step 3.

## Note #1: Scenario 1

**S1 Risk Score Calculation**

Part C (non-ESRD) Beneficiary

Mr. Carter

Gather reports and resources (STEP 1) Identify demographic and disease information (STEP 2) Calculate the risk score (STEP 4)

**NOTE #1**  
 If Mr. Carter was a default enrollee, then field 23, Risk Adjustment Factor Code would have a number “1” through “7” indicating the Risk Adjustment system did not provide the Medicare Advantage Prescription Drug (or MARx) System a risk score. In this case, MARx assigns a default score based on the demographics of the beneficiary.

**RESOURCES**

If Mr. Carter was a default enrollee, then field 23, Risk Adjustment Factor Code would have a number “1” through “7” indicating the Risk Adjustment system

did not provide the Medicare Advantage Prescription Drug (or MARx) System a risk score. In this case, MARx assigns a default score based on the demographics of the beneficiary.

## Step 3: Identify Relative Factors & Adjustment Factors

**STEP 3 Identify Relative Factors & Adjustment Factors**

Part C (non-ESRD) Beneficiary

Step three in the risk score calculation process involves gathering relative factors and adjustment factors. **Select each button below to learn more.**

**Relative Factors**

**Adjustment Factors**

**RESOURCES**

The next step is to gather Mr. Carter’s relative factors and adjustment factors.

Please select each button below to learn more. When you have finished reviewing each section, select the NEXT button to continue.

## Relative Factors

**RELATIVE FACTORS**

April 1, 2019

**NOTE TO: Medicare Advantage Organizations, Prescription Drug Plan Sponsors, and Other Interested Parties**

**Announcement of Calendar Year (CY) 2020 Medicare Advantage Capitation Rates and Medicare Advantage and Part D Payment Policies and Final Call Letter**

CMS received many submissions in response to our request for comments on Part 1 of the Advance Notice, published on December 26, 2018 and Part 51 of the Advance Notice Draft Call Letter, published on January 30, 2019. Comments were received from professional organizations, Medicare Advantage (MA) and Part D sponsors, advocacy groups, state Medicaid agencies, pharmaceutical manufacturers, pharmacy benefit managers, pharmacies, and concerned citizens. In response to the comments, we made a number of changes in the Rate Announcement and Call Letter that reflect CMS’s continued commitment to providing Medicare Advantage Organizations and Part D Plan Sponsors with the flexibility to develop and implement innovative approaches for providing Medicare benefits to enrollees and improving enrollees’ experiences. CMS expects the additional flexibility will result in additional and more affordable plan choices for Medicare beneficiaries. CMS is committed to exploring other avenues for simplifying and transforming the MA and Part D programs in order to encourage innovation and expand beneficiary choice, and is looking forward to working with stakeholders to achieve these shared goals.

In accordance with section 1855(b)(1) of the Social Security Act, we are notifying you of the annual capitation rate for each MA payment area for CY 2020 and the risk and other factors to be used in adjusting such rates. The capitation rate tables for 2020 and supporting data are posted on the CMS website at <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgOps/RateBooks/Supporting-Data.html>. The statutory component of the regional benchmark, qualifying counties, and each county’s applicable percentage are also posted in this section of the CMS website.

**RESOURCES**

To gather Mr. Carter’s demographic relative factors and disease relative factors, open the 2020 Rate Announcement and navigate to the CMS-HCC, ESRD, and RxHCC Risk Adjustment Factors section.



Since we know that Mr. Carter is a Part C Non-ESRD beneficiary, Tables VI-1 through Table VI-3 may apply. We know from the RAFT code that Mr. Carter is a continuing enrollee. Therefore, the most appropriate table to use when looking up Mr. Carter's relative factors is Table VI-1: 2020 Alternative Payment Condition Count Model Relative Factors for Continuing Enrollees.

Click on the name of this table to continue.

**RELATIVE FACTORS**

Table VI-1. 2020 Alternative Payment Condition Count Model Relative Factors for Continuing Enrollees

Variable	Description Label	Community NonDual, Aged	Community NonDual, Disabled	Community FBDual, Aged	Community FBDual, Disabled	Community FBDual, Aged	Community FBDual, Disabled	Institutional
<b>Female</b>								
6-34 Years		-	0.241	-	0.349	-	0.383	0.902
35-44 Years		-	0.315	-	0.349	-	0.414	1.105
45-54 Years		-	0.348	-	0.374	-	0.418	1.043
55-59 Years		-	0.339	-	0.374	-	0.418	1.043
60-64 Years		-	0.339	-	0.374	-	0.418	1.043
65-69 Years		0.308	-	0.494	-	0.370	-	1.288
70-74 Years		0.394	-	0.600	-	0.427	-	1.329
75-79 Years		0.473	-	0.710	-	0.500	-	1.317
80-84 Years		0.556	-	0.803	-	0.544	-	1.207
85-89 Years		0.686	-	1.000	-	0.659	-	1.122
90-94 Years		0.841	-	1.142	-	0.814	-	0.989
95 Years or Over		0.986	-	1.267	-	1.047	-	0.821
<b>Male</b>								
6-34 Years		-	0.156	-	0.240	-	0.389	1.101
35-44 Years		-	0.199	-	0.235	-	0.282	1.002
45-54 Years		-	0.241	-	0.307	-	0.313	0.965
55-59 Years		-	0.287	-	0.402	-	0.340	1.017
60-64 Years		-	0.339	-	0.526	-	0.373	1.001
65-69 Years		0.308	-	0.494	-	0.370	-	1.288
70-74 Years		0.394	-	0.600	-	0.427	-	1.329
75-79 Years		0.473	-	0.710	-	0.500	-	1.317
80-84 Years		0.556	-	0.803	-	0.544	-	1.207
85-89 Years		0.686	-	1.000	-	0.659	-	1.122
90-94 Years		0.841	-	1.142	-	0.814	-	0.989
95 Years or Over		0.986	-	1.267	-	1.047	-	0.821

**RESOURCES**

Now that we have selected the correct table, we need to determine which column to use.

Take a few moments to review the headings for each of the seven columns highlighted on your screen. Given what you know about Mr. Carter, which one best fits his status?

Go ahead; select the name of the column you think we should use.

Well done!


In Step 2, we learned that Mr. Carter is a full dual Medicare beneficiary, originally eligible due to age. Therefore, we should reference the "Community, Full Benefit Dual, Aged" column to gather his demographic and disease relative factors.

Select the button on your screen to continue.


**RELATIVE FACTORS**

To calculate Mr. Carter's risk score, you must first compute the sum of his demographic relative factors as well as the sum of his disease relative factors.

Select each button below to learn more.



**Sum of Demographic Relative Factors**



**Sum of Disease Relative Factors**

**RESOURCES**

To calculate Mr. Carter's risk score, you must first compute the sum of his demographic relative factors as well as the sum of his disease relative factors.

Select each button below to learn more.

**Demographic Factors**

**RELATIVE FACTORS | Demographic Factors**

Table VI-1. 2020 Alternative Payment Condition Count Model Relative Factors for Continuing Enrollees

Variable	Description Label	Community NonDual, Aged	Community NonDual, Disabled	Community FBDual, Aged	Community FBDual, Disabled	Community FBDual, Aged	Community FBDual, Disabled	Institutional
<b>Female</b>								
6-34 Years		-	0.241	-	0.349	-	0.383	0.902
35-44 Years		-	0.315	-	0.349	-	0.414	1.105
45-54 Years		-	0.348	-	0.374	-	0.418	1.043
55-59 Years		-	0.339	-	0.374	-	0.418	1.043
60-64 Years		-	0.428	-	0.490	-	0.412	1.067
65-69 Years		0.323	-	0.441	-	0.339	-	1.245
70-74 Years		0.380	-	0.519	-	0.406	-	1.159
75-79 Years		0.451	-	0.593	-	0.476	-	1.014
80-84 Years		0.528	-	0.716	-	0.550	-	0.882
85-89 Years		0.641	-	0.865	-	0.633	-	0.798
90-94 Years		0.787	-	0.987	-	0.783	-	0.668
95 Years or Over		0.787	-	1.041	-	0.873	-	0.501
<b>Male</b>								
6-34 Years		-	0.156	-	0.240	-	0.389	1.101
35-44 Years		-	0.199	-	0.235	-	0.282	1.002
45-54 Years		-	0.241	-	0.307	-	0.313	0.965
55-59 Years		-	0.287	-	0.402	-	0.340	1.017
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90-94 Years		0.841	-	1.142	-	0.814	-	0.989
95 Years or Over		0.986	-	1.267	-	1.047	-	0.821

**RESOURCES**

To calculate the sum of Mr. Carter's demographic relative factors, you must first identify the correct factor for each relevant demographic variable.

Since we know that Mr. Carter is a male aged 80 to 84, we need to capture the factor displayed in the cell that intersects row "80 to 84 Years" and the "Community, Full Benefit Dual, Aged" column, which is 0.803.

The only other value we need to consider when computing the sum of Mr. Carter's demographic relative factors is his Medicaid Interaction factor. Since Mr. Carter resides in the community, this factor does not apply. Therefore, Mr. Carter's demographic relative



factor, using the 2020 CMS-HCC model, is 0.803.

Select the NEXT button to continue.

### Disease Factors

Variable	Description Label	Community, Single Plan, Aged	Community, Single Plan, Disabled	Community, Full Benefit, Aged	Community, Full Benefit, Disabled	Community, Part D, Aged	Community, Part D, Disabled	Interaction
HCC17	Diabetes with Acute Complications	0.302	0.351	0.380	0.423	0.526	0.573	0.440
HCC18	Diabetes with Chronic Complications	0.302	0.351	0.380	0.423	0.526	0.573	0.440
HCC19	Diabetes without Complications	0.105	0.124	0.197	0.145	0.087	0.122	0.178
HCC110	Cystic Fibrosis	0.510	2.678	0.509	3.516	0.302	3.051	0.593
HCC111	Chronic Obstructive Pulmonary Disease	0.335	0.258	0.430	0.441	0.358	0.297	0.311
HCC112	Chronic Kidney and Other Chronic Long Conditions	0.219	0.237	0.163	0.275	0.200	0.229	0.110

Using the same table (Table VI-1) and the “Community, Full Benefit Dual, Aged” column that we used to gather Mr. Carter’s demographic relative factors, the next step in the process is to locate the values for each of Mr. Carter’s disease factors (or HCCs) in order to compute the sum of his disease relative factors.

During our MOR review in step 2, we confirmed that Mr. Carter has two HCCs:

- HCC19, Diabetes without complication, and
- HCC111, Chronic obstructive pulmonary disease.

To identify the relative factor for HCC19, we must capture the value displayed in the cell intersecting the “Community, Full Benefit Dual, Aged” column and row “HCC19,” which is 0.107.

To identify the relative factor for HCC111, we must capture the value displayed in the cell intersecting the “Community, Full Benefit Dual, Aged” column and row “HCC111,” which is 0.430.

Since there are no disease or disabled/disease interactions for this beneficiary, to compute the sum of Mr. Carter’s disease relative factors, simply add the relative factor for HCC19, which is 0.107, to the relative factor for HCC111, which is 0.430.

This makes the sum of Mr. Carter’s disease relative factors, using the 2020 CMS-HCC model, 0.537.

Select the NEXT button to continue.

### Adjustment Factors

It is now time to identify the adjustment factors you will need to apply when calculating Mr. Carter’s risk score. **Select the name of each adjustment factor to learn more.**

Normalization Factor

MA Coding Pattern Adjustment Factor

It is now time to identify the adjustment factors you will need to apply when calculating Mr. Carter’s risk score.

Select the name of each adjustment factor to learn more. When you are finished, select the NEXT button to continue.

### Normalization Factor

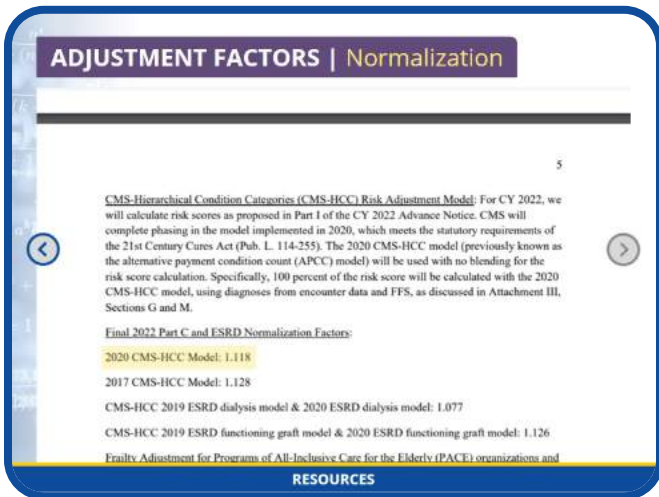
The Normalization Factor adjusts for population and coding changes between the denominator year and the payment year.

To locate the normalization factor information needed to calculate Mr. Carter’s 2022 risk score, you will need to reference the 2022 Rate Announcement. **Select the button below to learn more.**

SHOW ME

The normalization factor adjusts for population and coding changes between the denominator year and the payment year. To locate the normalization factor information for calculating Mr. Carter’s 2022 risk score, you will need to reference the 2022 Rate Announcement.

Select the SHOW ME button on your screen to learn more.



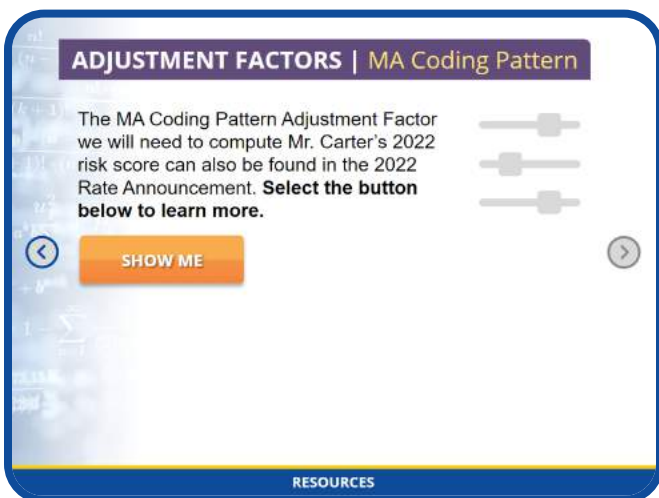
Open the 2022 Rate Announcement by selecting the RESOURCES button below and navigate to the “Final 2022 Part C and ESRD Normalization Factors” section.

Notice that the Rate Announcement includes separate normalization factors for each model.

Since we are using the 2020 CMS-HCC model to calculate Mr. Carter’s risk score, the normalization factor we need to use is 1.118.

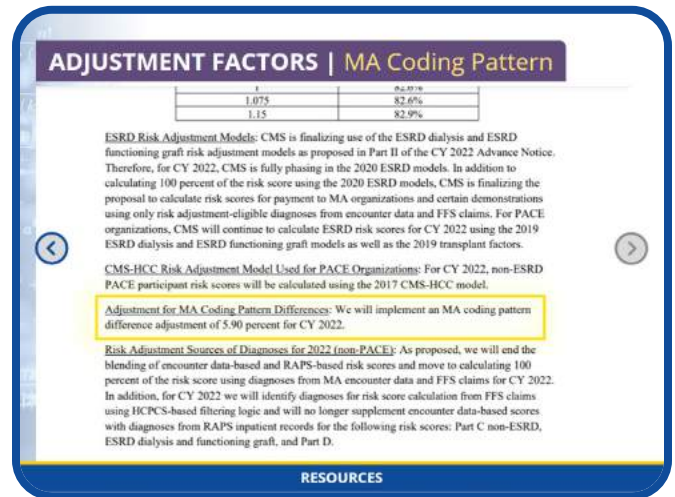
Select the NEXT button to continue.

### MA Coding Pattern Adjustment Factor



The Medicare Advantage coding pattern adjustment factor we will need to compute Mr. Carter’s 2022 risk score can also be found in the 2022 Rate Announcement.

Select the SHOW ME button on your screen to learn more.



Open the 2022 Rate Announcement and navigate to the “Adjustment for MA Coding Pattern Differences” section.

Based on the information in this Announcement, we must use the MA coding pattern adjustment factor of 5.90 percent, or 0.059, to calculate Mr. Carter’s risk score for the 2022 Payment Year.



Select the NEXT button to continue.

Great job! You have gathered all the values needed to complete the fourth and final step of the risk score calculation process.

Select the NEXT button to continue.

## Note #2: Scenario 1

**S1 Risk Score Calculation** Part C (non-ESRD) Beneficiary

*Mr. Carter*

**NOTE #2**

When using the CMS-HCC model for a beneficiary that resides in the community, the **Medicaid factor** will always be zero because in this model, the Medicaid factor only applies to beneficiaries who reside in institutions. For beneficiaries residing in the community, Medicaid status and eligibility are used to determine which segment of the model to use for risk score calculation.

STEP 4 Calculate the risk score

STEP 3 Identify relative factors and adjustment factors

RESOURCES

When using the CMS-HCC model for a beneficiary that resides in the community, the Medicaid factor will always be zero because in this model, the Medicaid factor only applies to beneficiaries who reside in institutions. For beneficiaries residing in the community, Medicaid status and eligibility are used to determine which segment of the model to use for risk score calculation.

### Step 4: Using the Risk Score Formula

**Calculation Values**

- > Sum of Demographic Relative Factors
- > Sum of Disease Relative Factors
- > Normalization Factor
- > MA Coding Pattern Adjustment Factor

→ **Risk Score Formula**

It is finally time to calculate Mr. Carter's risk score!

In this step, we will enter the values generated in Step 3—the sum of demographic relative factors, sum of disease relative factors, normalization factor, and the MA coding pattern adjustment factor—into the risk score formula to produce Mr. Carter's final risk score for Payment Year 2022.

Select the SHOW ME button on your screen to learn more.

**STEP 4 Using the Risk Score Formula** Part C (non-ESRD) Beneficiary

When using the risk score formula, you must perform several steps to accurately compute Mr. Carter's final payment risk score. **Select each button below to learn more.**

- 1 RAW RISK SCORE
- 2 ROUNDED NORMALIZED RISK SCORE
- 3 ROUNDED MA CODING PATTERN ADJUSTED RISK SCORE

RESOURCES

When using the risk score formula, we must perform several steps to accurately compute Mr. Carter's final payment risk score. Select each button below to learn more.

When you are finished, select the NEXT button to continue.

### 1. Calculate the Raw Risk Score

**STEP 4 Using the Risk Score Formula** Part C (non-ESRD) Beneficiary

RAW RISK SCORE CALCULATION

$$0.803 \text{ (SUM OF DEMOGRAPHIC FACTORS)} + 0.537 \text{ (SUM OF DISEASE FACTORS)} = 1.340 \text{ (RAW RISK SCORE)}$$

CLOSE

RESOURCES

The first step is to compute Mr. Carter's raw risk score by adding the sum of his demographic factors, which is 0.803, to the sum of disease factors, which is 0.537.

Mr. Carter's raw risk score is 1.340.



## 2. Calculate the Rounded Normalized Risk Score

The screenshot shows a software interface titled "Using the Risk Score Formula" for a "Part C (non-ESRD) Beneficiary". It displays the "ROUNDED NORMALIZED RISK SCORE CALCULATION" as follows:

$$\frac{1.340}{1.118} = 1.199$$

The components are labeled as: (RAW RISK SCORE) ÷ (2022 NORMALIZATION FACTOR) = (ROUNDED NORMALIZED SCORE). A "CLOSE" button is visible below the calculation.

Next, you must divide the raw risk score, 1,340, by the 2022 normalization factor for the 2020 CMS-HCC model, which is 1.118, to get a normalized score of 1.19857. You must round this number to the third decimal place to get a rounded normalized score of 1.199. Please note that if you skip rounding it may affect the risk score at the third decimal place, which will impact the final calculated payment risk score.

## 3. Calculate the MA Coding Pattern Adjusted Risk Score

The screenshot shows the same software interface, now displaying the "ROUNDED MA CODING PATTERN ADJUSTED RISK SCORE CALCULATION" as follows:

$$1.199 \times 0.941 = 1.128$$

The components are labeled as: (ROUNDED NORMALIZED RISK SCORE) × (1 - MA CODING PATTERN ADJUSTMENT FACTOR) = (ROUNDED MA CODING PATTERN ADJUSTED RISK SCORE). A "CLOSE" button is visible below the calculation.

Since we are using the Part C CMS-HCC model to calculate Mr. Carter's risk score, we also need to apply the MA coding pattern adjustment factor. To do this, simply multiply the rounded normalized risk score, which is 1.199, by 1 minus the MA coding pattern adjustment factor, which is 0.941, to get the MA coding pattern

adjusted risk score of 1.1283. You must round this number to the third decimal point to get a rounded MA coding pattern adjusted risk score of 1.128. This is Mr. Carter's risk score for Payment Year 2022.

## Scenario 1 Conclusion



Congratulations! You have just completed the four-step process of calculating Mr. Carter's risk score.

From gathering the necessary reports and resources and finding beneficiary demographic and disease information to identifying relative and adjustment factors and using the risk score formula, you now know how to compute the 2022 payment risk score for a Part C beneficiary who is not in End-Stage Renal Disease status.

There are three additional scenarios in this module. To choose another scenario, simply select the CHOOSE SCENARIO button displayed on your screen. Otherwise, select the NEXT button to continue.

**CHOOSE SCENARIO**



## Scenario 2: Part C (ESRD)

**Ms. Ellis**  
PART C (ESRD)

Meet Ms. Ellis, a 76-year-old beneficiary with kidney disease. Ms. Ellis received a transplant 5 months ago. She is currently residing in a long-term care facility. Ms. Ellis is eligible for both Medicare and Medicaid.

This scenario demonstrates how to calculate a risk score for a Part C beneficiary who is in End-Stage Renal Disease status.

**START SCENARIO**

**BACK**

Meet Ms. Ellis, a 76-year-old beneficiary with kidney disease. Ms. Ellis received a transplant 5 months ago. She is currently residing in a long-term care facility. Ms. Ellis is eligible for both Medicare and Medicaid.

This scenario demonstrates how to calculate a risk score for a Part C beneficiary who is in End-Stage Renal Disease status.

To begin the process of calculating Ms. Ellis' risk score, select the START SCENARIO button. To choose another scenario, select the BACK button at the top right of your screen.

**S2 Risk Score Calculation**  
Part C (ESRD) Beneficiary

*Ms. Ellis*

**STEP 1** Gather reports and resources

**STEP 2** Identify demographic and disease information

**STEP 3** Identify relative factors and adjustment factors

**STEP 4** Calculate the risk score

**RESOURCES**

Ready to walk through the process of calculating Ms. Ellis' risk score?

Select the STEP 1 button to begin.

## Step 1: Gather Reports & Resources

**STEP 1** Gather Reports & Resources  
Part C (ESRD) Beneficiary

To accurately calculate Ms. Ellis' risk score, you will need the following reports and resources:

- Monthly Membership Detail Report (MMR)
- Model Output Report (MOR)
- Plan Communication User Guide (PCUG)
- Annual Rate Announcement(s)

**RESOURCES**

To accurately calculate Ms. Ellis' risk score, the first step in the process is to gather all the reports and resources you will need which you can now access by selecting the RESOURCES button at the bottom of your screen.

These reports and resources include the Monthly Membership Detail Report (or MMR), the Model Output Report (or MOR), the Plan Communication User Guide (or PCUG), and the Annual Rate Announcement.

Please select the NEXT button to continue.

## Monthly Membership Detail Report

**STEP 1** Gather Reports & Resources  
Part C (ESRD) Beneficiary

To accurately calculate Ms. Ellis' risk score, you will need the following reports and resources:

**Monthly Membership Detail Report (MMR)**

The Monthly Membership Detail Report provides Plans with beneficiary demographic and status information that was used for risk score calculation for a specific payment month. You will need the data found in this report to complete Step 3 of the risk score calculation process.

- Annual Rate Announcement(s)

**RESOURCES**

The Monthly Membership Detail Report provides Plans with beneficiary demographic and status information. You will need the data found in this report to complete Step 3 of the risk score calculation process.

## Model Output Report

**STEP 1** Gather Reports & Resources **MENU**

Part C (ESRD) Beneficiary

**Model Output Report (MOR)**

To accurately need the following reports and resources:

- Monthly
- Model Output Report (MOR) **i**
- Plan Communication User Guide (PCUG) **i**
- Annual Rate Announcement(s)

RESOURCES

Recall from Module 2 that the Model Output Report is a monthly report that lists the diseases applicable to each beneficiary. You will need the data from this report to complete Step 3 in the risk score calculation process.

## Plan Communication User Guide

**STEP 1** Gather Reports & Resources **MENU**

Part C (ESRD) Beneficiary

To accurately calculate Ms. Ellis' risk score, you will need the following reports and resources:

- **Plan Communication User Guide (PCUG)** **i**  
The PCUG provides layout and field description information for the MMR and MOR.
- Plan Communication User Guide (PCUG) **i**
- Annual Rate Announcement(s)

RESOURCES

The PCUG provides layout and field description information for the MMR and MOR.

## Annual Rate Announcement

**SHOW ME**

To ensure that you are entering correct data into the risk score calculation formula, first you must verify which payment year your risk score calculation should be based on. For this scenario, Ms. Ellis' risk score calculations will be based on Payment Year 2022.

You will therefore need to refer to the 2022 Rate Announcement to determine which risk adjustment payment model to use.

Select the SHOW ME button to learn more.

**RATE ANNOUNCEMENT(S)**

January 15, 2021

**NOTE TO: Medicare Advantage Organizations, Prescription Drug Plan Sponsors, and Other Interested Parties**

**Announcement of Calendar Year (CY) 2022 Medicare Advantage (MA) Capitation Rates and Part D Payment Policies**

In accordance with section 1853(b)(1) of the Social Security Act, we are notifying you of the annual capitation rate for each Medicare Advantage (MA) payment area for CY 2022 and the risk and other factors to be used in adjusting such rates.

CMS received many submissions in response to our request for comments on Part I of the Advance Notice of Methodological Changes for CY 2022 MA Capitation Rates and Part C and Part D Payment Policies (CY 2022 Advance Notice), published on September 14, 2020, and Part II of the CY 2022 Advance Notice, published on October 30, 2020. Commenters included professional organizations, MA and Part D sponsors, advocacy groups, state Medicaid agencies, pharmaceutical manufacturers, pharmacy benefit managers, pharmacies, and interested persons. After considering all comments received, we are finalizing a number of policies in the Announcement of CY 2022 MA Capitation Rates and Part C and Part D Payment Policies (CY

RESOURCES

To verify which risk adjustment payment model you'll need to use for 2022 risk score calculation, open up the 2022 Rate Announcement and navigate to the section that describes the ESRD Risk Adjustment Model. The information in this section states that CMS completed the phasing in of the model implemented in 2020. Therefore, 100 percent of the risk score will be calculated using the 2020 ESRD model.

Since we will be using the 2020 ESRD Functioning Graft model to calculate Ms. Ellis’ risk score, we will also need to refer to the 2020 Rate Announcement to look up her demographic and disease relative factors. This information is required to complete Step 3 of the risk score calculation process.

Select the NEXT button to continue.

## Step 2: Identify Demographics & Disease Information



The next step in the risk score calculation process involves gathering Ms. Ellis’ demographics and disease information.

Please select each button below to learn more. When you have finished reviewing each section, select the NEXT button to continue.

## Demographic Factors

MMR Field #	Demographic/Model Indicator	Value
7	Sex	F
15	ESRD	Y
20	Part C LTI	Y
21	Medicaid Indicator	Y
23	Default Risk Factor Code	<SPACE>
40	Age	75-79
46	RAFT Code	I1
48	OREC	0

To gather Ms. Ellis’ demographic information, you will need to reference the Monthly Membership Detail Report.

The highlighted data shown on this MMR table are required demographic and model indicators that you will need to compute the sum of Ms. Ellis’ demographic relative factors during Step 3 of this process.

The “F” value in field 7 indicates that this beneficiary is a female.

The “Y” value in field 15 indicates this beneficiary has ESRD status.

The “Y” value in field 20 indicates that this beneficiary resides in a long-term institution.

The “Y” value in field 21 indicates that a Medicaid add-on factor is used in the payment.

The <SPACE> value in field 23 indicates that this beneficiary did not receive a default score.

The value in field 40 indicates that this beneficiary is in the 75-79 age group.

The “I1” RAFT Code value in field 46 indicates that this beneficiary is categorized as Institutional Post Graft 4 to 9 months, which means she lives in an institution and is 4 to 9 months post-transplant.

And lastly, the number “0” value in field 48 indicates that this beneficiary is Medicare eligible due to age.



## Disease Factors

**STEP 2** Identify Demographic & Disease Information

Part C (ESRD) Beneficiary

**DISEASE FACTORS**

**Model Output Report (MOR)**

1 RUN DATE: 20220608 RISK ADJUSTMENT MODEL OUTPUT REPORT  
 PAYMENT MONTH: 202207 PLAN: H0000  
 MBL: LAST NAME FIRST NAME DATE OF BIRTH SEX & AGE GROUP ESRD  
 ##### ELLIS C YYYYMMDD Female 75-79 Y  
 HCC DISEASE GROUPS: HCC12 Breast, Prostate, and Other Cancer and Tumors  
 HCC18 Diabetes with Chronic Complications

**CLOSE**

To gather Ms. Ellis' disease information, or HCCs, you will need to reference the Model Output Report.

Take a moment to review Ms. Ellis' information shown on your screen. Notice that the payment HCCs identified for this beneficiary are HCC12, Breast, Prostate, and Other Cancer and Tumors, and HCC18, Diabetes with Chronic Complications. You will need this information when computing the sum of Ms. Ellis' disease relative factors in Step 3.

## Note #1: Scenario 2

**S2** Risk Score Calculation

Part C (ESRD) Beneficiary

Ms. Ellis

STEP 1 Gather reports and resources  
 STEP 2 Identify demographic and disease information  
 STEP 3 Calculate the risk score  
 STEP 4 Calculate the risk score

**NOTE #1**  
 You learned earlier that a beneficiary's ESRD status can be found in the MMR. However, did you know that you can also confirm a beneficiary's ESRD status by referencing the MOR? If there is a "Y" value under the ESRD column (far right), your beneficiary's status is ESRD.

**RESOURCES**

You learned earlier that a beneficiary's ESRD status can be found in the MMR. However, did you know that you can also confirm a beneficiary's ESRD status by referencing the MOR? If there is a "Y" value under the ESRD column (to the far right), your beneficiary's status is ESRD.

## Step 3: Identify Relative Factors & Adjustment Factors

**STEP 3** Identify Relative Factors & Adjustment Factors

Part C (ESRD) Beneficiary

Step three in the risk score calculation process involves gathering relative factors and adjustment factors. **Select each button below to learn more.**

**Relative Factors**

**Adjustment Factors**

**RESOURCES**

The next step is to gather Ms. Ellis' relative factors and adjustment factors.

Please select each button below to learn more. When you have finished reviewing each section, select the NEXT button to continue.

## Relative Factors

**RELATIVE FACTORS**

April 1, 2019

**NOTE TO: Medicare Advantage Organizations, Prescription Drug Plan Sponsors, and Other Interested Parties**

**Announcement of Calendar Year (CY) 2020 Medicare Advantage Capitation Rates and Medicare Advantage and Part D Payment Policies and Final Call Letter**

CMS received many submissions in response to our request for comments on Part I of the Advance Notice, published on December 20, 2018 and Part II of the Advance Notice/Draft Call Letter, published on January 30, 2019. Comments were received from professional organizations, Medicare Advantage (MA) and Part D sponsors, advocacy groups, state Medicaid agencies, pharmaceutical manufacturers, pharmacy benefit managers, pharmacies, and concerned citizens. In response to the comments, we made a number of changes in the Rate Announcement and Call Letter that reflect CMS's continued commitment to providing Medicare Advantage Organizations and Part D Plan Sponsors with the flexibility to develop and implement innovative approaches for providing Medicare benefits to enrollees and improving enrollment. CMS expects the additional flexibility will result in additional and more affordable plan choices for Medicare beneficiaries. CMS is committed to exploring other avenues for simplifying and modernizing the MA and Part D programs in order to encourage innovation and expand beneficiary choice, and is looking forward to working with stakeholders to achieve those shared goals.

In accordance with section 1830(b)(1) of the Social Security Act, we are notifying you of the annual capitation rate for each MA payment area for CY 2020 and the risk and other factors to be used in adjusting such rates. The capitation rate tables for 2020 and supporting data are posted on the CMS website at <https://www.cms.gov/Medicare/Health-Plan/Medicare-Advantage/Downloads/RateAnnouncements/RateAnnouncementsSupportingData.html>. The statutory component of the regional benchmarks, qualifying countries, and each country's applicable percentage are also posted on this section of the CMS website.

**RESOURCES**

To gather Ms. Ellis' demographic relative factors and disease relative factors, open the 2020 Rate Announcement and navigate to the CMS-HCC, ESRD, and RxHCC Risk Adjustment Factors section.

Since we know that Ms. Ellis is a Part C ESRD beneficiary, Tables VI-5 through Table VI-11 may apply. We also know that Ms. Ellis is living in an institution and has a functioning graft. Therefore, the most appropriate table to use when looking up Ms. Ellis' relative factors



is Table VI-9: ESRD Model Functioning Graft Relative Factors for Institutionalized Population.

Click on the name of this table to continue.

**RELATIVE FACTORS**

Table VI-9. ESRD Model Functioning Graft Relative Factors for Institutionalized Population

Variable	Description Label	Relative Factors
<b>Functioning Graft Factors</b>		
Aged <65, with duration since transplant of 4-9 months		2.600
Aged 65+, with duration since transplant of 4-9 months		3.064
Aged <65, with duration since transplant of 10 months or more		1.005
Aged 65+, with duration since transplant of 10 months or more		1.341
<b>Female</b>		
0-34 Years		1.015
35-44 Years		1.269
45-54 Years		1.187
55-59 Years		1.213
60-64 Years		1.216
65-69 Years		1.449
70-74 Years		1.340
75-79 Years		1.182
80-84 Years		1.030
85-89 Years		0.932
90-94 Years		0.778
95 Years or Over		0.579
<b>Male</b>		
0-34 Years		1.262
35-44 Years		1.143
45-54 Years		1.106
55-59 Years		1.162
<b>Medicaid and Originally Disabled</b>		
Medicaid		0.089
Originally Disabled Age ≥65		-

RESOURCES

Take a few moments to review the table highlighted on your screen. Notice the relative factors column to the right and the functioning graft factors section at the top of the table.


You will need to reference this information later in the process.

Select the NEXT button to continue.


**RELATIVE FACTORS**

To calculate Ms. Ellis' risk score, you will need to first compute the sum of her demographic relative factors as well as the sum of her disease relative factors.

Select each button below to learn more.



**Sum of Demographic Relative Factors**



**Sum of Disease Relative Factors**

RESOURCES

To calculate Ms. Ellis' risk score, you must first compute the sum of her demographic relative factors as well as the sum of her disease relative factors.

Select each button below to learn more.

## Demographic Factors

**RELATIVE FACTORS | Demographic Factors**

Table VI-9. ESRD Model Functioning Graft Relative Factors for Institutionalized Population

Variable	Description Label	Relative Factors
<b>Female</b>		
0-34 Years		1.015
35-44 Years		1.269
45-54 Years		1.187
55-59 Years		1.213
60-64 Years		1.216
65-69 Years		1.449
70-74 Years		1.340
75-79 Years		1.182
<b>Male</b>		
0-34 Years		1.262
35-44 Years		1.143
45-54 Years		1.106
55-59 Years		1.162
<b>Medicaid and Originally Disabled</b>		
Medicaid		0.089
Originally Disabled Age ≥65		-

RESOURCES

To calculate the sum of Ms. Ellis' demographic relative factors, you must first identify the correct factor for each relevant demographic variable.

Since we know that Ms. Ellis is a female aged 75 to 79, we need to capture the factor displayed in row "75 to 79 Years," which is 1.182.

Since we know that Ms. Ellis was originally eligible for Medicare due to age, the "Originally Disabled" factor does not apply.

Since we know that Ms. Ellis is Medicaid eligible, we need to capture the factor displayed in the Medicaid row, which is 0.089.

Select the NEXT button to continue.

### RELATIVE FACTORS | Demographic Factors

Table VI-9. ESRD Model Functioning Graft Relative Factors for Institutionalized Population

Variable	Description Label	Relative Factors
<b>Functioning Graft Factors</b>		
Aged <65, with duration since transplant of 4-9 months		2.600
Aged 65+, with duration since transplant of 4-9 months		3.064
Aged <65, with duration since transplant of 10 months or more		1.005
Aged 65+, with duration since transplant of 10 months or more		1.341

1.182

(AGE / SEX FACTOR)

+

0.089

(MEDICAID FACTOR)

+

3.064

(FUNCTIONING GRAPH FACTOR)

=

4.335

(SUM OF DEMOGRAPHIC RELATIVE FACTORS)

RESOURCES

The only other value we must account for to calculate the sum of Ms. Ellis’ demographic relative factors is her functioning graft factor.

We know that Ms. Ellis is over age 65 and that her transplant surgery was five months ago. Therefore, we must capture the value displayed for row “Ages 65+, with duration since transplant of 4-9 months,” which is 3.064.

Now, to compute the sum of Ms. Ellis’ demographic relative factors, simply add up her age and sex factor from the previous screen, which is 1.182, the Medicaid factor, which is 0.089, and her functioning graft factor, which is 3.064.

This makes the sum of Ms. Ellis’ demographic relative factors, using the 2020 ESRD model, 4.335.

Select the NEXT button to continue.

### Disease Factors

### RELATIVE FACTORS | Disease Factors

Table VI-9. ESRD Model Functioning Graft Relative Factors for Institutionalized Population

Variable	Description Label	Relative Factors
<b>Disease Coefficients</b>		
HCC1	HIV/AIDS	2.043
HCC2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	0.328
HCC6	Opportunistic Infections	0.679
HCC8	Metastatic Cancer and Acute Leukemia	1.542
HCC9	Lung and Other Severe Cancers	0.723
HCC10	Lymphoma and Other Cancers	0.539
HCC11	Colorectal, Bladder, and Other Cancers	0.340
HCC12	Breast, Prostate, and Other Cancers and Tumors	0.232
HCC17	Diabetes with Acute Complications	0.446
HCC18	Diabetes with Chronic Complications	0.446
HCC19	Diabetes without Complication	0.197
HCC21	Protein-Calorie Malnutrition	0.302
HCC22	Morbid Obesity	0.513
HCC23	Other Significant Endocrine and Metabolic Disorders	0.429

RESOURCES

Using the same table (Table VI-9) that we used to gather Ms. Ellis’ demographic relative factors, the next step in the process is to locate the values for each of Ms. Ellis’ disease factors (or HCCs) in order to compute the sum of her disease relative factors.

During our MOR review in step 2, we confirmed that Ms. Ellis has two HCCs:

- HCC12, Breast, Prostate, and Other Cancers and Tumors, and
- HCC18, Diabetes with Chronic Complications.

To identify the relative factor for HCC12, we must capture the value for row “HCC12,” which is 0.232.

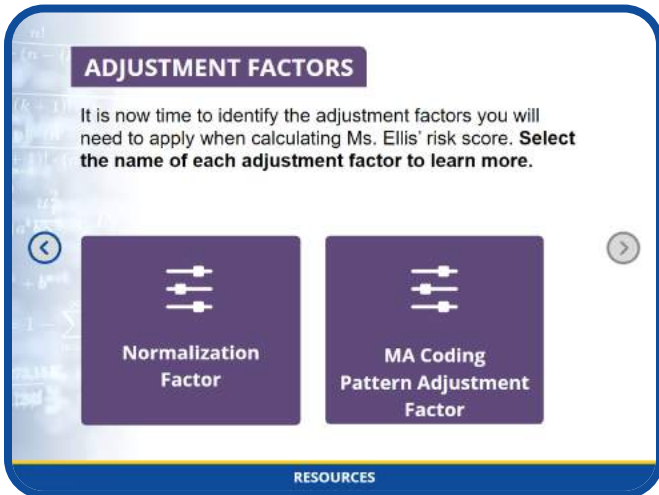
To identify the relative factor for HCC18, we must capture the value displayed for row “HCC18,” which is 0.446.

Since there are no disease or disabled/disease interactions for this beneficiary, to compute the sum of Ms. Ellis’ disease relative factors, simply add the relative factor for HCC12, which is 0.232, to the relative factor for HCC18, which is 0.446.

This makes the sum of Ms. Ellis’ disease relative factors, using the 2020 ESRD model, 0.678.

Select the NEXT button to continue.

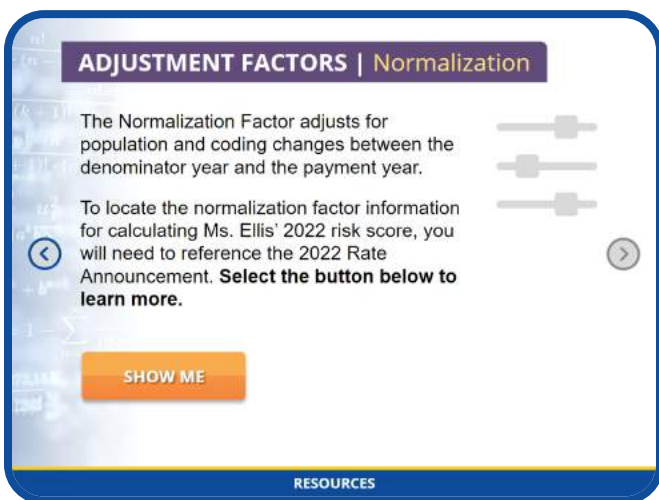
## Adjustment Factors



It is now time to identify the adjustment factors you will need to apply when calculating Ms. Ellis' risk score.

Select the name of each adjustment factor to learn more. When you are finished, select the NEXT button to continue.

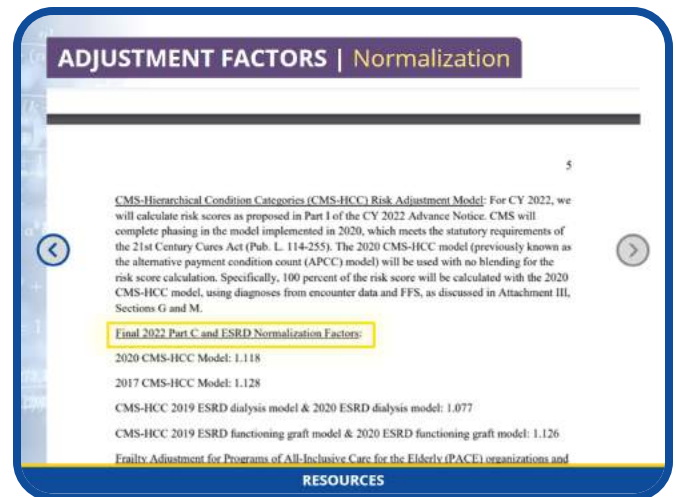
### Normalization Factor



The normalization factor adjusts for population and coding changes between the denominator year and the payment year.

To locate the normalization factor information for calculating Ms. Ellis' 2022 risk score, you will need to reference the 2022 Rate Announcement.

Select the SHOW ME button on your screen to learn more.



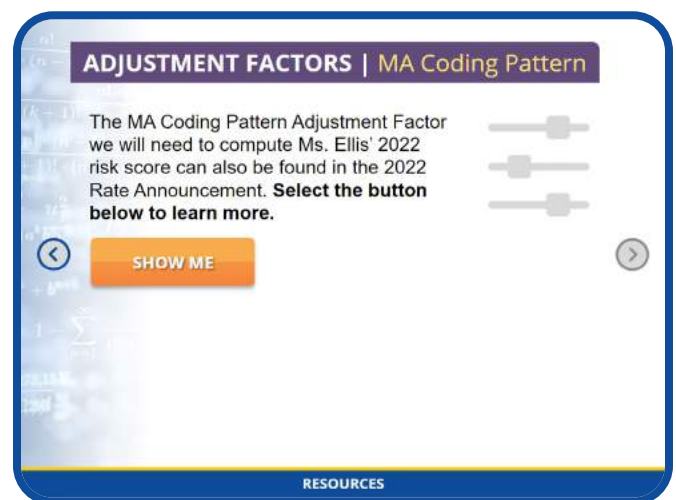
Open the 2022 Rate Announcement by selecting the RESOURCES button below and navigate to the "Final 2022 Part C and ESRD Normalization Factors" section.

Notice that the Rate Announcement includes separate normalization factors for each model.

Since we are using the 2020 ESRD Functioning Graft model to calculate Ms. Ellis' risk score, the normalization factor we need to use is 1.126.

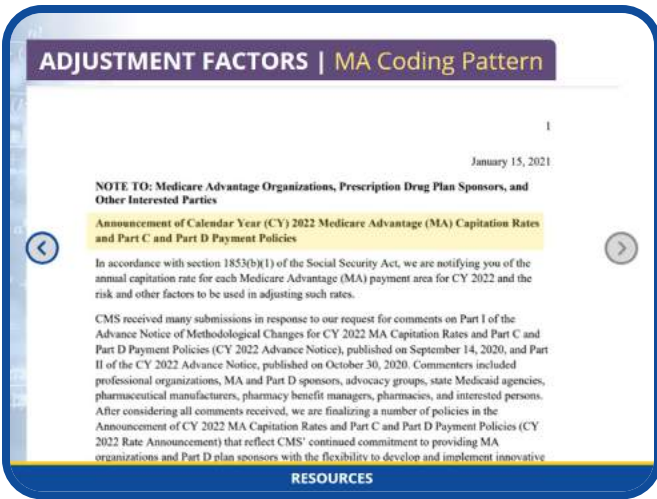
Select the NEXT button to continue.

### MA Coding Pattern Adjustment Factor



The Medicare Advantage coding pattern adjustment factor we will need to compute Ms. Ellis' 2022 risk score can also be found in the 2022 Rate Announcement.

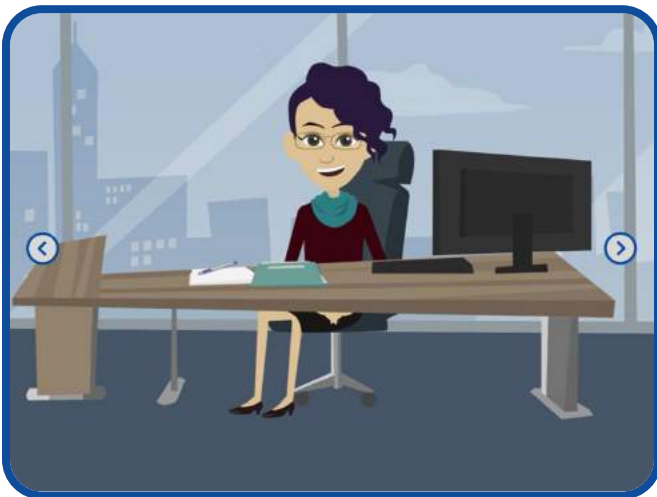
Select the SHOW ME button on your screen to learn more.



Open the 2022 Rate Announcement and navigate to the “Adjustment for MA Coding Pattern Differences” section.

Based on the information in this Announcement, we must use the MA coding pattern adjustment factor of 5.90 percent, or 0.059, to calculate Ms. Ellis’ risk score for the 2022 Payment Year.

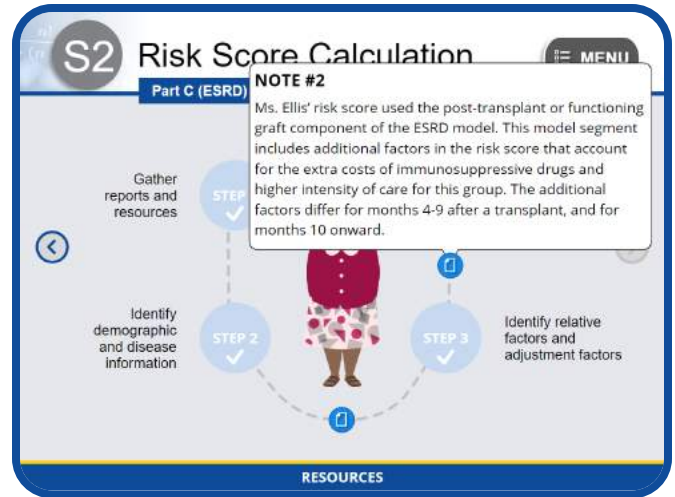
Select the NEXT button to continue.



Great job! You have gathered all the values needed to complete the fourth and final step of the risk score calculation process.

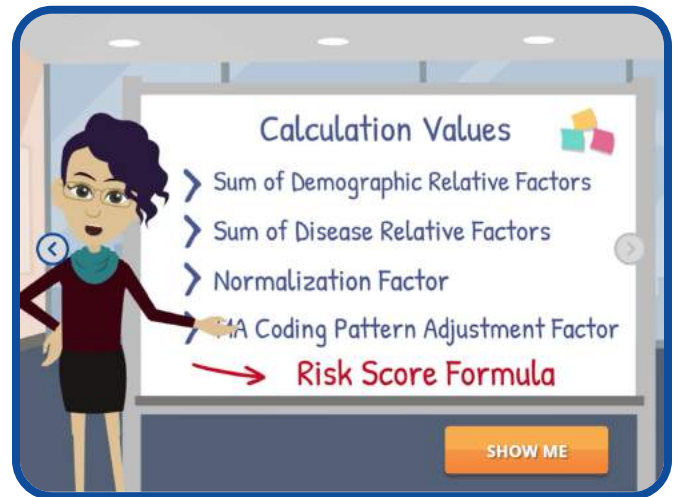
Select the NEXT button to continue.

## Note #2: Scenario 2



Ms. Ellis’ risk score used the post-transplant or functioning graft component of the ESRD model. 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. The additional factors differ for months 4-9 after a transplant and for month 10 onward.

## Step 4: Using the Risk Score Formula



It is finally time to calculate Ms. Ellis’ risk score!

In this step, we will enter the values generated in Step 3—the sum of demographic relative factors, sum of disease relative factors, normalization factor, and the MA coding pattern adjustment factor—into the risk score formula to produce Ms. Ellis’ final risk score for Payment Year 2022.

Select the SHOW ME button on your screen to learn more.



**STEP 4** Using the Risk Score Formula MENU  
 Part C (ESRD) Beneficiary

When using the risk score formula, you must perform several steps to accurately compute Ms. Ellis' final payment risk score. **Select each button below to learn more.**

**1**

RAW RISK SCORE

**2**

ROUNDED NORMALIZED RISK SCORE

**3**

ROUNDED MA CODING PATTERN ADJUSTED RISK SCORE

RESOURCES

When using the risk score formula, we must perform several steps to accurately compute Ms. Ellis' final payment risk score. **Select each button below to learn more.**

When you are finished, select the NEXT button to continue.

### 1. Calculate the Raw Risk Score

**STEP 4** Using the Risk Score Formula MENU  
 Part C (ESRD) Beneficiary

RAW RISK SCORE CALCULATION

$$\frac{4.335}{\text{(SUM OF DEMOGRAPHIC FACTORS)}} + \frac{0.678}{\text{(SUM OF DISEASE FACTORS)}} = \frac{5.013}{\text{(RAW RISK SCORE)}}$$

CLOSE

RESOURCES

The first step is to compute Ms. Ellis' raw risk score by adding the sum of her demographic factors, which is 4.335, to the sum of disease factors, which is 0.678.

Ms. Ellis' raw risk score is 5.013.

### 2. Calculate the Rounded Normalized Risk Score

**STEP 4** Using the Risk Score Formula MENU  
 Part C (ESRD) Beneficiary

ROUNDED NORMALIZED RISK SCORE CALCULATION

$$\frac{5.013}{\text{(RAW RISK SCORE)}} \div \frac{1.126}{\text{(2022 NORMALIZATION FACTOR)}} = \frac{4.452}{\text{(ROUNDED NORMALIZED SCORE)}}$$

CLOSE

RESOURCES

Next, you must divide the raw risk score, 5.013, by the 2022 normalization factor for the 2020 ESRD Functioning Graft model, which is 1.126, to get a normalized score of 4.45204. You must round this number to the third decimal place to get a rounded normalized score of 4.452. Please note that if you skip rounding, it may affect the risk score at the third decimal place, which will impact the final calculated payment risk score.

### 3. Calculate the MA Coding Pattern Adjusted Risk Score

**STEP 4** Using the Risk Score Formula MENU  
 Part C (ESRD) Beneficiary

ROUNDED MA CODING PATTERN ADJUSTED RISK SCORE CALCULATION

$$\frac{4.452}{\text{(ROUNDED NORMALIZED RISK SCORE)}} \times \frac{0.941}{\text{(1 - MA CODING PATTERN ADJUSTMENT FACTOR)}} = \frac{4.189}{\text{(ROUNDED MA CODING PATTERN ADJUSTED RISK SCORE)}}$$

CLOSE

RESOURCES

Since we are using the Part C ESRD model to calculate Ms. Ellis' risk score, we also need to apply the MA coding pattern adjustment factor. To do this, simply multiply the rounded normalized risk score, which is 4.452, by 1 minus the MA coding pattern adjustment factor, which is 0.941, to get the MA coding pattern

adjusted risk score of 4.18933.

You must round this number to the third decimal point to get a rounded MA coding pattern adjusted risk score of 4.189.

This is Ms. Ellis' risk score for Payment Year 2022.

## Scenario 2 Conclusion



Congratulations! You have just completed the four-step process of calculating Ms. Ellis' risk score.

From gathering the necessary reports and resources and finding beneficiary demographic and disease information to identifying relative and adjustment factors and using the risk score formula, you now know how to compute the 2022 payment risk score for a Part C beneficiary who is in End-Stage Renal Disease status.

There are three additional scenarios in this module. To choose another scenario, simply select the CHOOSE SCENARIO button displayed on your screen. Otherwise, select the NEXT button to continue.

**CHOOSE SCENARIO**

## Scenario 3: Part C (PACE)

**Ms. Price**  
PART C (PACE)

Meet Ms. Price, a 72-year-old who lives at home.

This scenario demonstrates how to calculate a risk score for a Part C beneficiary who is not in End-Stage Renal Disease status and is enrolled in a Program of All Inclusive Care for the Elderly (or PACE) plan.

**START SCENARIO**

Meet Ms. Price, a 72-year-old who lives at home.

This scenario demonstrates how to calculate a risk score for a Part C beneficiary who is not in End-Stage Renal Disease status and is enrolled in a Program of All Inclusive Care for the Elderly (or PACE) plan.

To begin the process of calculating Ms. Price's risk score, select the **START SCENARIO** button. To choose another scenario, select the **BACK** button at the top right of your screen.

**S3 Risk Score Calculation**  
Part C (PACE) Beneficiary

*Ms. Price*

**STEP 1** Gather reports and resources

**STEP 2** Identify demographic and disease information

**STEP 3** Identify relative factors and adjustment factors

**STEP 4** Calculate the risk score

**RESOURCES**

Ready to walk through the process of calculating Ms. Price's risk score?

Select the **STEP 1** button to begin.

## Step 1: Gather Reports & Resources

**STEP 1** Gather Reports & Resources  
Part C (PACE) Beneficiary

To accurately calculate Ms. Price's risk score, you will need the following reports and resources:

- Monthly Membership Detail Report (MMR)
- Model Output Report (MOR)
- Plan Communication User Guide (PCUG)
- Annual Rate Announcement(s)

**RESOURCES**

To accurately calculate Ms. Price's risk score, the first step in the process is to gather all the reports and resources you will need which you can now access by selecting the **RESOURCES** button at the bottom of your screen.

These reports and resources include the Monthly Membership Detail Report (or MMR), the Model Output Report (or MOR), the Plan Communication User Guide (or PCUG), and the Annual Rate Announcement.

Please select the **NEXT** button to continue.

## Monthly Membership Detail Report

**STEP 1** Gather Reports & Resources  
Part C (PACE) Beneficiary

To **Monthly Membership Detail Report (MMR)** will provide Plans with beneficiary demographic and status information that was used for risk score calculation for a specific payment month. You will need the data found in this report to complete Step 3 of the risk score calculation process.

- Annual Rate Announcement(s)

**RESOURCES**

The Monthly Membership Detail Report provides Plans with beneficiary demographic and status information. You will need the data found in this report to complete Step 3 of the risk score calculation process.

## Model Output Report

**STEP 1** Gather Reports & Resources **MENU**

Part C (PACE) Beneficiary

**Model Output Report (MOR)**

To accurately calculate Ms. Price's risk score, you will need the following reports and resources:

- Monthly
- Model Output Report (MOR) **i**
- Plan Communication User Guide (PCUG) **i**
- Annual Rate Announcement(s)

RESOURCES

Recall from Module 2 that the Model Output Report is a monthly report that lists the diseases applicable to each beneficiary. You will need the data from this report to complete Step 3 in the risk score calculation process.

## Plan Communication User Guide

**STEP 1** Gather Reports & Resources **MENU**

Part C (PACE) Beneficiary

To accurately calculate Ms. Price's risk score, you will need the following reports and resources:

- **Plan Communication User Guide (PCUG)** **i**  
The PCUG provides layout and field description information for the MMR and MOR.
- Plan Communication User Guide (PCUG) **i**
- Annual Rate Announcement(s)

RESOURCES

The PCUG provides layout and field description information for the MMR and MOR.

## Annual Rate Announcement

**SHOW ME**

To ensure that you are entering correct data into the risk score calculation formula, first you must verify which payment year your risk score calculation should be based on. For this scenario, Ms. Price's risk score calculations will be based on Payment Year 2022.

You will therefore need to refer to the 2022 Rate Announcement to determine which risk adjustment payment model to use.

Select the SHOW ME button to learn how.

**RATE ANNOUNCEMENT(S)**

proposal to calculate risk scores for payment to MA organizations and certain demonstrations using only risk adjustment-eligible diagnoses from encounter data and FFS claims. For PACE organizations, CMS will continue to calculate ESRD risk scores for CY 2022 using the 2019 ESRD dialysis and ESRD functioning graft models as well as the 2019 transplant factors.

**CMS-HCC Risk Adjustment Model Used for PACE Organizations:** For CY 2022, non-ESRD PACE participant risk scores will be calculated using the 2017 CMS-HCC model.

**Adjustment for MA Coding Pattern Differences:** We will implement an MA coding pattern difference adjustment of 5.90 percent for CY 2022.

**Risk Adjustment Sources of Diagnoses for 2022 (non-PACE):** As proposed, we will end the blending of encounter data-based and RAPS-based risk scores and move to calculating 100 percent of the risk score using diagnoses from MA encounter data and FFS claims for CY 2022. In addition, for CY 2022 we will identify diagnoses for risk score calculation from FFS claims using HCPCS-based filtering logic and will no longer supplement encounter data-based scores with diagnoses from RAPS inpatient records for the following risk scores: Part C non-ESRD, ESRD dialysis and functioning graft, and Part D.

**Risk Adjustment Sources of Diagnoses for 2022 (PACE):** As proposed, we will continue the same method of calculating risk scores under the CMS-HCC, RxHCC, and ESRD models for PACE organizations that we have been using since CY 2015, which is to pool risk adjustment-eligible diagnoses from the following sources to calculate a single risk score (with no weighting): (1) encounter data, (2) RAPS data, and (3) FFS claims.

RESOURCES

To verify which risk adjustment payment model you'll need to use for 2022 risk score calculation, reference the 2022 Rate Announcement and navigate to the section that describes the CMS-HCC Risk Adjustment Model used for PACE organizations. The information in this section states that the risk scores for non-ESRD PACE participants will be calculated using the 2017 CMS-HCC model.



Since we will be using the 2017 CMS-HCC model to calculate Ms. Price’s risk score, we will also need to refer to the 2017 Rate Announcement to look up her demographic and disease relative factors. This information is required to complete Step 3 of the risk score calculation process.

Select the NEXT button to continue.

## Step 2: Identify Demographics & Disease Information



The next step in the risk score calculation process involves gathering Ms. Price’s demographics and disease information.

Please select each button below to learn more. When you have finished reviewing each section, select the NEXT button to continue.

## Demographic Factors

MMR Field #	Demographic/Model Indicator	Value
7	Sex	F
20	Part C LTI	<SPACE>
23	Default Risk Factor Code	<SPACE>
39	Medicaid	1
40	Age	70-74
46	RAFT Code	PI
47	Frailty Indicator	Y
48	OREC	0
80	Part C Frailty Factor	0.105
84	Medicaid Dual Status	8

To gather Ms. Price’s demographic information, you will need to reference the Monthly Membership Detail Report. The highlighted data shown on this MMR table are required demographic and model indicators that you will need to compute the sum of Ms. Price’s demographic relative factors during Step 3 of this process.

The “F” value in field 7 indicates that this beneficiary is a female.

The <SPACE> value in field 20 indicates that this beneficiary does not reside in a long-term institution.

The <SPACE> value in field 23 indicates that this beneficiary did not receive a default score.

The number “1” value in field 39 indicates that this beneficiary has Medicaid and is either full or partial dual.

The value in field 40 indicates that this beneficiary is in the 70–74 age group.

The “PI” RAFT Code value in field 46 indicates that this beneficiary is categorized as PACE Community Full Dual, which means she lives in the community, is enrolled in a PACE plan for Medicare, and receives full Medicaid benefits.

The “Y” value in field 47 indicates that this beneficiary has Frailty status.

The number “0” value in field 48 indicates that this beneficiary is Medicare eligible due to age.

The number “0.105” value in field 80 is the Part C Frailty Factor used in the risk score calculation.

Finally, the number “8” value in field 84 confirms the value in field 46, that this beneficiary is in fact full dual.

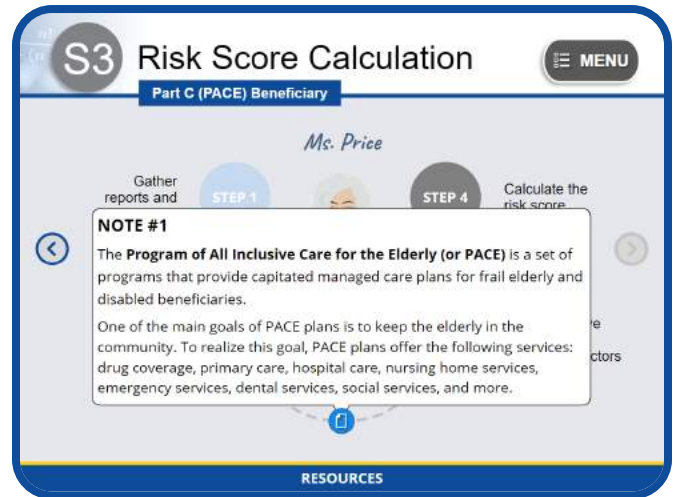
### Disease Factors



To gather Ms. Price’s disease information, or HCCs, you will need to reference the Model Output Report.

Take a moment to review Ms. Price’s information shown on your screen. Notice that the payment HCCs identified for this beneficiary are HCC19, Diabetes Without Complications; HCC35, Inflammatory Bowel Disease; HCC40, Rheumatoid Arthritis and Inflammatory Connective Tissue Disease; and HCC111, Chronic Obstructive Pulmonary Disease. You will need this information when computing the sum of Ms. Price’s disease relative factors in Step 3.

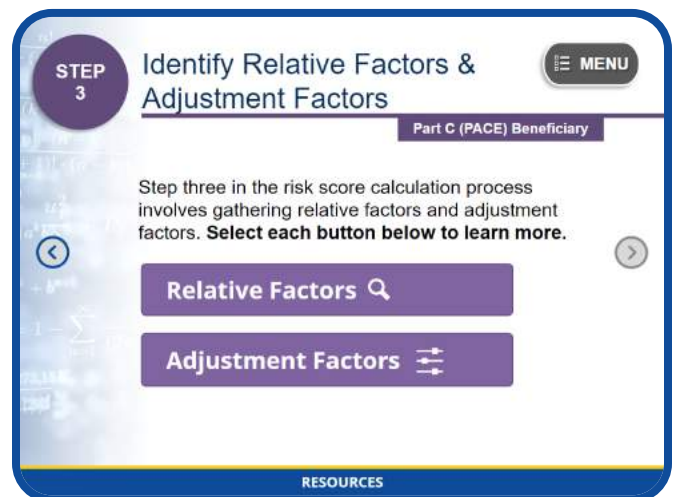
### Note #1: Scenario 3



The Program of All Inclusive Care for the Elderly (or PACE) is a set of programs that provide capitated managed care plans for frail elderly and disabled beneficiaries.

One of the main goals of PACE plans is to keep the elderly in the community. To realize this goal, PACE plans offer the following services: drug coverage, primary care, hospital care, nursing home services, emergency services, dental services, social services, and more.

### Step 3: Identify Relative Factors & Adjustment Factors



The next step is to gather Ms. Price’s relative factors and adjustment factors. Please select each button below to learn more. When you have finished reviewing each section, select the NEXT button to continue.

## Relative Factors

**RELATIVE FACTORS**

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Table VI-3. 2017 CMS-HCC Model Relative Factors for New Enrollees in Chronic Condition Special Needs Plans (C-SNPs) ..... 86

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**RESOURCES**

To gather Ms. Price’s demographic relative factors and disease relative factors, open the 2017 Rate Announcement and navigate to the CMS-HCC and RxHCC Risk Adjustment Factors section.

Since we know that Ms. Price is a Part C beneficiary, Tables VI-1 through Table VI-3 may apply. We also know from her RAFT code that Ms. Price is a continuing enrollee. Therefore, the most appropriate table to use when looking up Ms. Price’s relative factors is Table VI-1: 2017 CMS-HCC Model Relative Factors for Community and Institutional Beneficiaries.

Click on the name of this table to continue.

**RELATIVE FACTORS**

Table VI-1. 2017 CMS-HCC Model Relative Factors for Community and Institutional Beneficiaries

Variable	Description Label	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Institutional
<b>Female</b>								
0-34 Years		-	0.244	-	0.318	-	0.344	1.031
35-44 Years		-	0.303	-	0.306	-	0.383	0.999
45-54 Years		-	0.377	-	0.318	-	0.374	1.007
<b>Community, NonDual, Aged</b>								
75-79 Years		0.448	-	0.611	-	0.484	-	0.99
80-84 Years		0.537	-	0.739	-	0.552	-	0.869
85-89 Years		0.664	-	0.917	-	0.678	-	0.749
90-94 Years		0.797	-	1.037	-	0.817	-	0.626
95 Years or Over		0.816	-	1.094	-	0.913	-	0.456
<b>Male</b>								
0-34 Years		-	0.155	-	0.225	-	0.330	1.049
35-44 Years		-	0.190	-	0.204	-	0.267	1.074
45-54 Years		-	0.221	-	0.281	-	0.300	1.008
55-59 Years		-	0.271	-	0.372	-	0.307	1.055
60-64 Years		-	0.303	-	0.486	-	0.343	1.039
65-69 Years		0.300	-	0.492	-	0.334	-	1.269
70-74 Years		0.379	-	0.582	-	0.409	-	1.323
75-79 Years		0.466	-	0.692	-	0.491	-	1.331
80-84 Years		0.563	-	0.816	-	0.546	-	1.189
85-89 Years		0.694	-	1.009	-	0.679	-	1.129

**RESOURCES**

Now that we have selected the correct table, we need to determine which column to use.

Take a few moments to review the headings for each of the seven columns highlighted on your screen.

Given what you know about Ms. Price, which one best fits her status?

Go ahead; select the name of the column you think we should use.

Well done!


In Step 2, we learned that Ms. Price is a full dual Medicare beneficiary, originally eligible due to age. Therefore, we should reference the “Community, Full Benefit Dual, Aged” column to gather her demographic and disease relative factors.

Select the button on your screen to continue.


**RELATIVE FACTORS**

To calculate Ms. Price’s risk score, you will need to first compute the sum of his demographic relative factors as well as the sum of his disease relative factors.

**Select each button below to learn more.**



**Sum of Demographic Relative Factors**



**Sum of Disease Relative Factors**

**RESOURCES**

To calculate Ms. Price’s risk score, you must first compute the sum of her demographic relative factors as well as the sum of her disease relative factors.

Select each button below to learn more.

## Demographic Factors

**RELATIVE FACTORS | Demographic Factors**

Table VI-1. 2017 CMS-HCC Model Relative Factors for Community and Institutional Beneficiaries

Variable	Description Label	Community, Full Benefit, Aged	Community, Full Benefit, Disabled	Community, Full Benefit, Aged	Community, Full Benefit, Disabled	Community, Full Benefit, Aged	Community, Full Benefit, Disabled	Institutional
<b>Female</b>								
0-14 Years		-	0.244	-	0.518	-	0.144	1.031
15-44 Years		-	0.303	-	0.306	-	0.183	0.999
45-54 Years		-	0.322	-	0.338	-	0.374	1.007
55-59 Years		-	0.350	-	0.308	-	0.371	0.986
60-64 Years		-	0.411	-	0.449	-	0.395	1.028
65-69 Years		0.312	-	0.423	-	0.341	-	1.200
70-74 Years		0.374	-	0.511	-	0.400	-	1.092
75-79 Years		0.448	-	0.611	-	0.484	-	0.995
80-84 Years		0.537	-	0.729	-	0.552	-	0.860
85-89 Years		0.664	-	0.917	-	0.678	-	0.749
90-94 Years		0.797	-	1.037	-	0.817	-	0.626
95 Years or Over		0.816	-	1.094	-	0.913	-	0.456
<b>Male</b>								
0-14 Years		-	0.155	-	0.235	-	0.330	1.049
15-44 Years		-	0.190	-	0.204	-	0.267	1.074
45-54 Years		-	0.221	-	0.281	-	0.300	1.008
55-59 Years		-	0.271	-	0.372	-	0.307	1.055
60-64 Years		0.300	-	0.303	-	0.486	-	1.143
65-69 Years		0.300	-	0.492	-	0.334	-	1.260
70-74 Years		0.379	-	0.582	-	0.409	-	1.321
75-79 Years		0.466	-	0.692	-	0.491	-	1.331
80-84 Years		0.561	-	0.816	-	0.546	-	1.189
85-89 Years		0.694	-	1.009	-	0.679	-	1.129

RESOURCES

To calculate the sum of Ms. Price's demographic relative factors, you must first identify the correct factor for each relevant demographic variable.

Since we know that Ms. Price is a female aged 70 to 74, we need to capture the factor displayed in the cell that intersects row "70 to 74 Years" and the "Community, Full Benefit Dual, Aged" column, which is 0.511.

The only other factor we need to consider when calculating Ms. Price's sum of demographic relative factors is the Medicaid interaction factor. Since Ms. Price resides in the community, this factor does not apply.

Therefore, the sum of Ms. Price's demographic relative factors, using the 2017 CMS-HCC model, is 0.511.

Select the NEXT button to continue.

## Disease Factors

**RELATIVE FACTORS | Disease Factors**

Table VI-1. 2017 CMS-HCC Model Relative Factors for Community and Institutional Beneficiaries

Variable	Description Label	Community, Full Benefit, Aged	Community, Full Benefit, Disabled	Community, Full Benefit, Aged	Community, Full Benefit, Disabled	Community, Full Benefit, Aged	Community, Full Benefit, Disabled	Institutional
<b>Disease Code</b>								
HCC19	Diabetes without complication	0.11	0.667	0.577	0.401			
HCC18	Diabetes with complication	0.31	0.354	0.423	0.441			
HCC19	Diabetes without complication	0.11	0.667	0.577	0.401			
HCC31	Anginal (Ischemic) Pathology	0.246	0.624	0.369	0.501	0.324	0.310	0.335
HCC34	Coronary Atherosclerosis	0.276	0.678	0.333	0.875	0.412	0.349	0.241
HCC35	Inflammatory Bowel Disease	0.379	0.441	0.334	0.613	0.209	0.496	0.244
HCC39	Heart Ischemic Infarction/Myocardial Infarction	0.425	0.474	0.552	0.713	0.418	0.491	0.345
HCC40	Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	0.423	0.377	0.370	0.345	0.390	0.290	0.325
HCC46	Stroke (Ischemic) Disorders	1.188	1.188	1.219	4.256	1.220	3.529	0.680
HCC08	Stroke (Hemorrhagic)	0.298	0.331	0.324	0.319	0.316	0.276	0.094
HCC110	Cystic Fibrosis	0.620	2.538	0.985	3.365	0.558	2.461	0.303
HCC111	Chronic Obstructive Pulmonary Disease	0.378	0.262	0.422	0.354	0.358	0.293	0.305
HCC112	Emphysema of Lung and Other Chronic Lung Diseases	0.209	0.262	0.134	0.322	0.172	0.174	0.057

RESOURCES

Using the same table (Table VI-1) and the "Community, Full Benefit Dual, Aged" column that we used to gather Ms. Price's demographic relative factors, the next step in the process is to locate the values for each of Ms. Price's disease factors (or HCCs) in order to compute the sum of her disease relative factors.

During our MOR review in step 2, we confirmed that Ms. Price has four HCCs:

- HCC19, Diabetes without complication,
- HCC35, Inflammatory Bowel Disease,
- HCC40, Rheumatoid Arthritis and Inflammatory Connective Tissue Disease,
- and HCC111, Chronic obstructive pulmonary disease.

To identify the relative factor for HCC19, we must capture the value displayed in the cell intersecting the "Community, Full Benefit Dual, Aged" column and row "HCC19," which is 0.097.

To identify the relative factor for HCC35, we must capture the value displayed in the cell intersecting the "Community, Full Benefit Dual, Aged" column and row "HCC35," which is 0.334.

To identify the relative factor for HCC40, we must capture the value displayed in the cell intersecting the "Community, Full Benefit Dual, Aged" column and row "HCC40," which is 0.370.



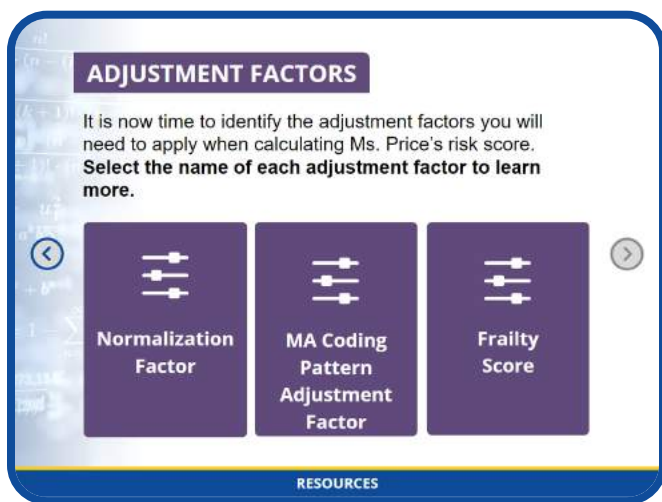
To identify the relative factor for HCC111, we must capture the value displayed in the cell intersecting the “Community, Full Benefit Dual, Aged” column and row “HCC111,” which is 0.422.

Since there are no disease or disabled/disease interactions for this beneficiary, to compute the sum of Ms. Price’s disease relative factors, simply add the value for each of her four HCC factors together.

This makes the sum of Ms. Price’s disease relative factors, using the 2017 CMS-HCC model, 1.223.

Select the NEXT button to continue.

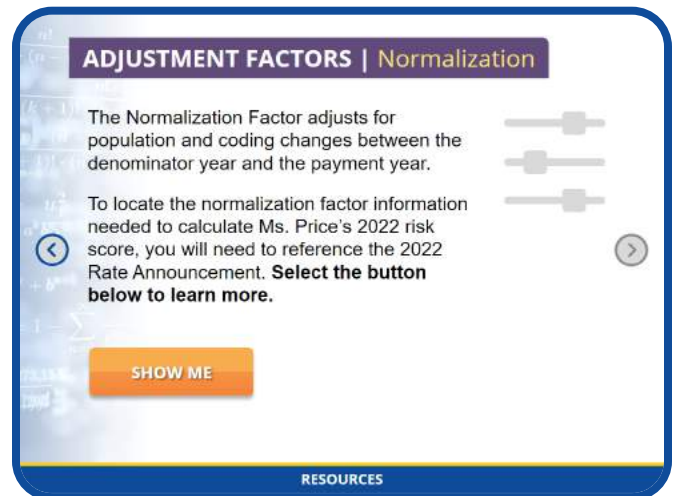
### Adjustment Factors



It is now time to identify the adjustment factors you will need to apply when calculating Ms. Price’s risk score.

Select the name of each adjustment factor to learn more. When you are finished, select the NEXT button to continue.

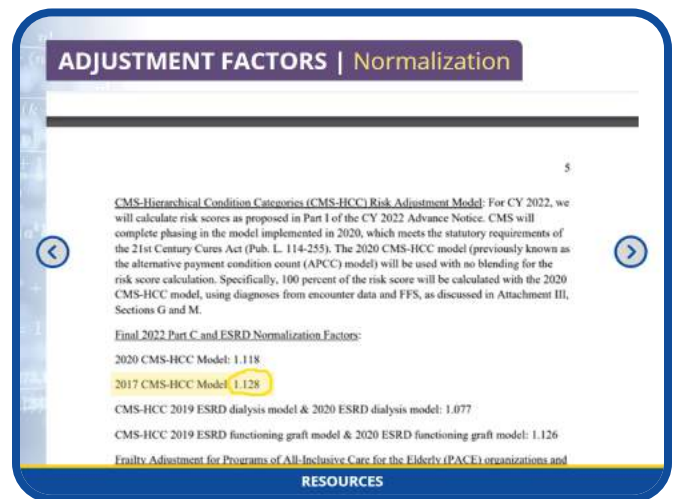
### Normalization Factor



The normalization factor adjusts for population and coding changes between the denominator year and the payment year.

To locate the normalization factor information needed to calculate Ms. Price’s 2022 risk score, you will need to reference the 2022 Rate Announcement.

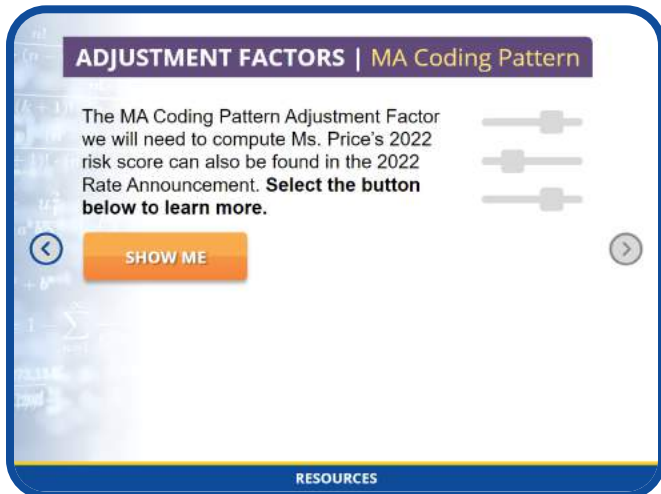
Select the SHOW ME button on your screen to learn more.



Open the 2022 Rate Announcement by selecting the RESOURCES button below and navigate to the “Final 2022 Part C and ESRD Normalization Factors” section. Notice that the Rate Announcement includes separate normalization factors for each model.

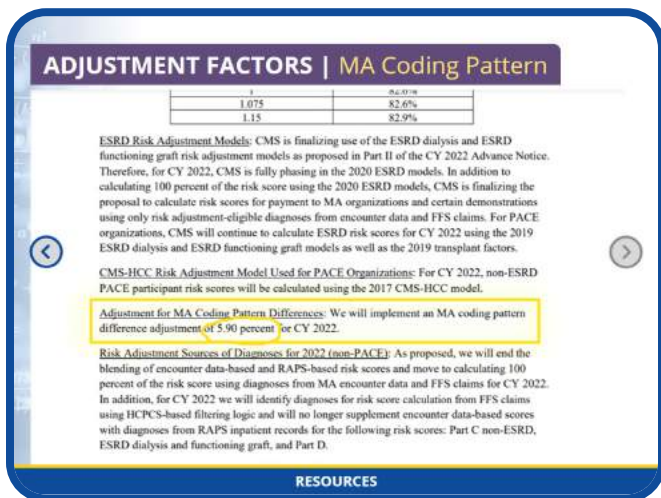
Since we are using the 2017 CMS-HCC model to calculate Ms. Price’s risk score, the normalization factor we need to use is 1.128. Select the NEXT button to continue.

## MA Coding Pattern Adjustment Factor



The Medicare Advantage coding pattern adjustment factor we will need to compute Ms. Price's 2022 risk score can also be found in the 2022 Rate Announcement.

Select the SHOW ME button on your screen to learn more.



Open the 2022 Rate Announcement and navigate to the "Adjustment for MA Coding Pattern Differences" section.

Based on the information in this Announcement, we must use the MA coding pattern adjustment factor of 5.90 percent, or 0.059, to calculate Ms. Price's risk score for the 2022 Payment Year.

Select the NEXT button to continue.

## Frailty Score Factor



To calculate the risk score for a beneficiary enrolled in a PACE plan, you will need their frailty score.

Select the SHOW ME button on your screen to learn more.



You learned earlier that frailty score information can be found on field 80 in the MMR.

Frailty scores are also posted to the Health Plan Management System or HPMS. Plans are notified once frailty scores become available via an HPMS memo.

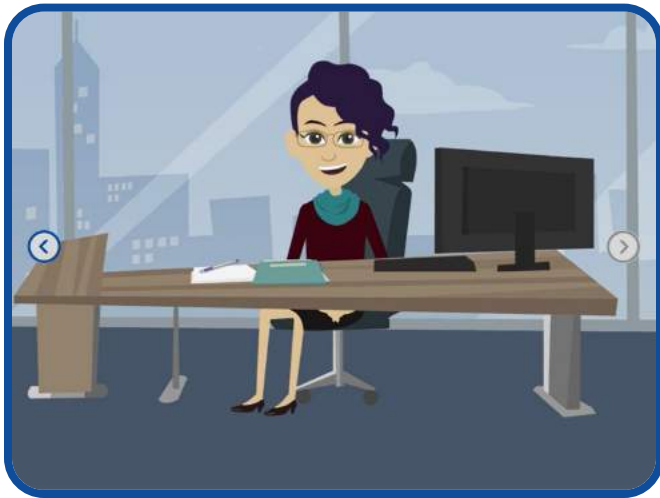
To locate your beneficiary's frailty score information on the HPMS once you are logged in, navigate to the Risk Adjustment module and select SURVEY INFORMATION from the left navigation pane.

Under survey, from the SELECT FUNCTION dropdown, choose "Survey Results for Frailty Adjustment."

Select the appropriate year before selecting the SUBMIT button.

Ms. Price's frailty score is 0.105.

Select the NEXT button to continue.



Great job! You have gathered all the values needed to complete the fourth and final step of the risk score calculation process.

Select the NEXT button to continue.

### Note #2: Scenario 3

**S3 Risk Score Calculation**  
Part C (PACE) Beneficiary

**NOTE #2**  
Because CMS calibrates the CMS-HCC model using FFS or fee-for-service data, the relative factors in this model reflect the fee-for-service pattern of diagnostic coding.

Since the Medicare Advantage coding patterns differ from FFS coding patterns, CMS created the MA coding pattern adjustment factor to keep MA risk scores comparable to FFS risk scores.

Per the statute, for 2019 and each subsequent year, the minimum required coding adjustment factor is 5.90 percent.

STEP 4 Calculate the risk score

STEP 3 Identify relative factors and adjustment factors

RESOURCES

Because CMS calibrates the CMS-HCC model using FFS or fee-for-service data, the relative factors in this model reflect the fee-for-service pattern of diagnostic coding.

Since the Medicare Advantage coding patterns differ from FFS coding patterns, CMS created the MA coding pattern adjustment factor to keep MA risk scores comparable to FFS risk scores.

Per the statute, for 2019 and each subsequent year, the minimum required coding adjustment factor is 5.90 percent.

### Step 4: Using the Risk Score Formula

**Calculation Values**

- > Sum of Demographic Relative Factors
- > Sum of Disease Relative Factors
- > Normalization Factor
- > MA Coding Pattern Adjustment Factor
- > Frailty Score

→ Risk Score Formula

SHOW ME

It is finally time to calculate Ms. Price's risk score!

In this step, we will enter the values generated in Step 3 — the sum of demographic relative factors, sum of disease relative factors, the normalization factor, the MA coding pattern adjustment factor, and the frailty score — into the risk score formula to produce Ms. Price's final risk score for Payment Year 2022.

Select the SHOW ME button on your screen to learn more.

**STEP 4 Using the Risk Score Formula**  
Part C (PACE) Beneficiary

When using the risk score formula, you must perform several steps to accurately compute Ms. Price's final payment risk score. **Select each button below to learn more.**

- 1 RAW RISK SCORE
- 2 ROUNDED NORMALIZED RISK SCORE
- 3 ROUNDED MA CODING PATTERN ADJUSTED RISK SCORE
- 4 FRAILTY ADJUSTED RISK SCORE

RESOURCES

When using the risk score formula, we must perform several steps to accurately compute Ms. Price's final payment risk score.



Select each button below to learn more. When you are finished, select the NEXT button to continue.

### 1. Calculate the Raw Risk Score

STEP 4 Using the Risk Score Formula Part C (PACE) Beneficiary

RAW RISK SCORE CALCULATION

$$\frac{0.511}{\text{(SUM OF DEMOGRAPHIC FACTORS)}} + \frac{1.223}{\text{(SUM OF DISEASE FACTORS)}} = \frac{1.734}{\text{(RAW RISK SCORE)}}$$

CLOSE

RESOURCES

The first step is to compute Ms. Price’s raw risk score by adding the sum of her demographic factors, which is 0.511, to the sum of disease factors, which is 1.223.

Ms. Price’s raw risk score is 1.734.

### 2. Calculate the Rounded Normalized Risk Score

STEP 4 Using the Risk Score Formula Part C (PACE) Beneficiary

ROUNDED NORMALIZED RISK SCORE CALCULATION

$$\frac{1.734}{\text{(RAW RISK SCORE)}} \div \frac{1.128}{\text{(2022 NORMALIZATION FACTOR)}} = \frac{1.537}{\text{(ROUNDED NORMALIZED RISK SCORE)}}$$

CLOSE

RESOURCES

Next, you must divide the raw risk score, 1.734, by the 2022 normalization factor, which is 1.128, to get a normalized score of 1.53723. You must round this number to the third decimal place to get a rounded normalized score of 1.537. Please note that if you skip rounding, it may affect the risk score at the third decimal place, which will impact the final calculated payment risk score.

### 3. Calculate the MA Coding Pattern Adjusted Risk Score

STEP 4 Using the Risk Score Formula Part C (PACE) Beneficiary

ROUNDED MA CODING PATTERN ADJUSTED RISK SCORE CALCULATION

$$\frac{1.537}{\text{(ROUNDED NORMALIZED RISK SCORE)}} \times \frac{0.941}{\text{(1 - MA CODING PATTERN ADJUSTMENT FACTOR)}} = \frac{1.446}{\text{(ROUNDED MA CODING PATTERN ADJUSTED RISK SCORE)}}$$

CLOSE

RESOURCES

Since we are using the Part C CMS-HCC model to calculate Ms. Price’s risk score, we also need to apply the MA coding pattern adjustment factor. To do this, simply multiply the rounded normalized risk score, which is 1.537, by 1 minus the MA coding pattern adjustment factor, which is 0.941, to get the MA coding pattern adjusted risk score of 1.44632.

You must round this value to the third decimal place to get Ms. Price’s rounded MA coding pattern adjusted risk score of 1.446.

### 4. Calculate the Frailty Adjusted Risk Score

STEP 4 Using the Risk Score Formula Part C (PACE) Beneficiary

FRAILTY ADJUSTED RISK SCORE CALCULATION

$$\frac{1.446}{\text{(ROUNDED MA CODING PATTERN ADJUSTED RISK SCORE)}} + \frac{0.105}{\text{(FRAILITY SCORE)}} = \frac{1.551}{\text{(FRAILITY ADJUSTED RISK SCORE)}}$$

CLOSE

RESOURCES

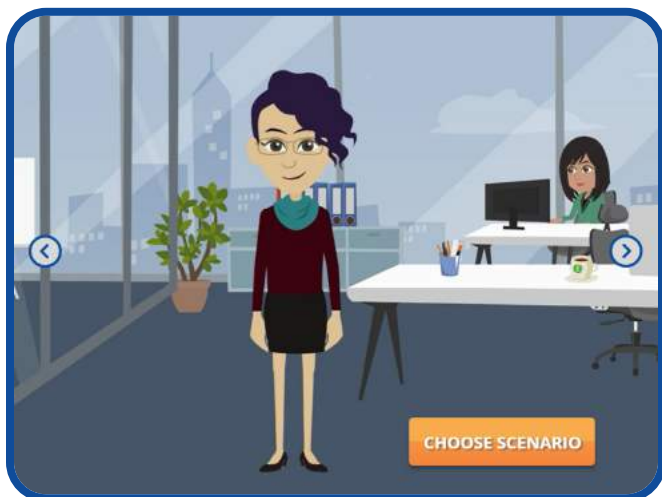
Since Ms. Price is a PACE beneficiary, we need to incorporate her frailty score into the final calculation of her payment risk score.



To do this, simply add Ms. Price's rounded MA coding pattern adjusted risk score, which is 1.446, to her frailty score of 0.105, which gives you her frailty adjusted risk score of 1.551.

This is Ms. Price's final PACE risk score for Payment Year 2022.

### Scenario 3 Conclusion



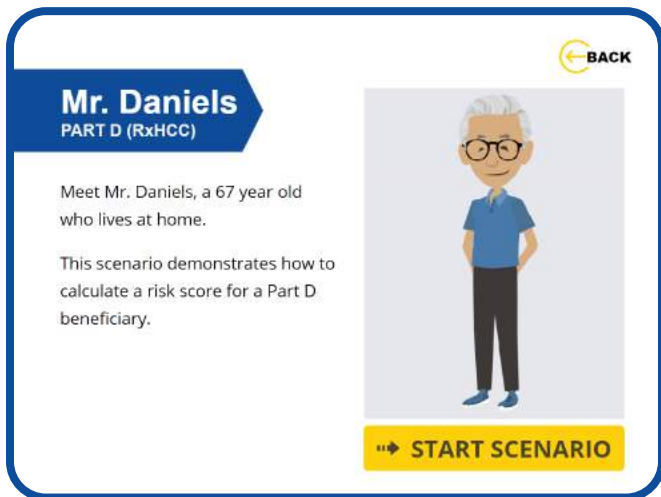
Congratulations! You have just completed the four-step process of calculating Ms. Price's risk score.

From gathering the necessary reports and resources and finding beneficiary demographic and disease information to identifying relative and adjustment factors and using the risk score formula, you now know how to compute the 2022 payment risk score for a Part C beneficiary who is not in End-Stage Renal Disease status and is enrolled in a PACE plan.

There are three additional scenarios in this module. To choose another scenario, simply select the CHOOSE SCENARIO button displayed on your screen. Otherwise, select the NEXT button to continue.

**CHOOSE SCENARIO**

## Scenario 4: Part D (RxHCC)



Mr. Daniels  
PART D (RxHCC)

Meet Mr. Daniels, a 67 year old who lives at home.

This scenario demonstrates how to calculate a risk score for a Part D beneficiary.

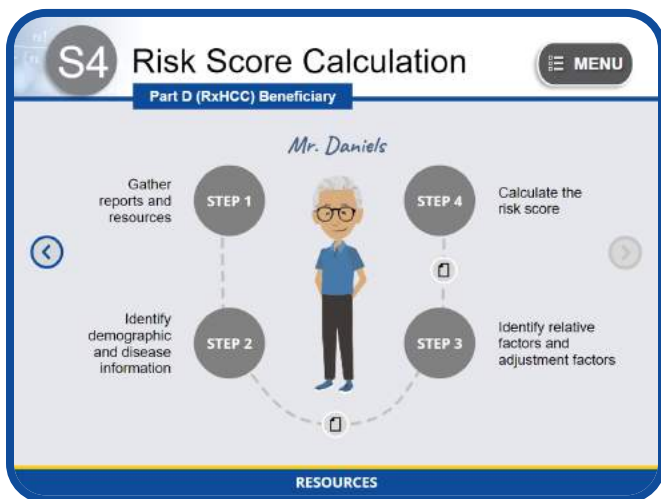
START SCENARIO

BACK

Meet Mr. Daniels, a 67-year-old who lives at home.

This scenario demonstrates how to calculate a risk score for a Part D beneficiary.

To begin the process of calculating Mr. Daniels' risk score, select the START SCENARIO button. To choose another scenario, select the BACK button at the top right of your screen.



S4 Risk Score Calculation  
Part D (RxHCC) Beneficiary

Mr. Daniels

STEP 1: Gather reports and resources

STEP 2: Identify demographic and disease information

STEP 3: Identify relative factors and adjustment factors

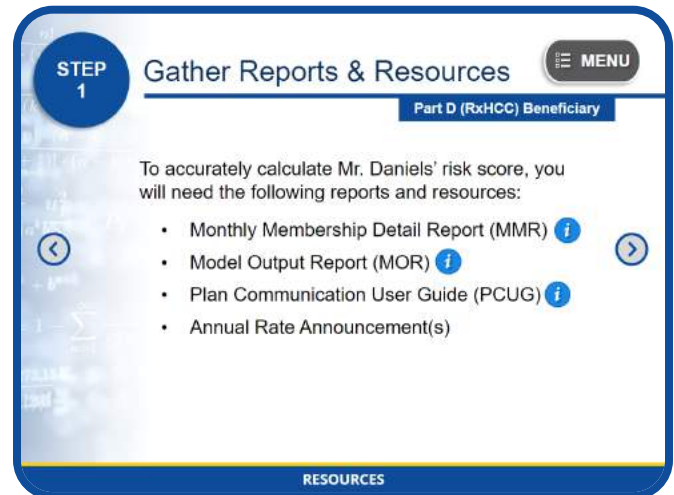
STEP 4: Calculate the risk score

RESOURCES

Ready to walk through the process of calculating Mr. Daniels' risk score?

Select the STEP 1 button to begin.

## Step 1: Gather Reports & Resources



STEP 1 Gather Reports & Resources  
Part D (RxHCC) Beneficiary

To accurately calculate Mr. Daniels' risk score, you will need the following reports and resources:

- Monthly Membership Detail Report (MMR)
- Model Output Report (MOR)
- Plan Communication User Guide (PCUG)
- Annual Rate Announcement(s)

RESOURCES

To accurately calculate Mr. Daniels' risk score, the first step in the process is to gather all the reports and resources you will need which you can now access by selecting the RESOURCES button at the bottom of your screen.

These reports and resources include the Monthly Membership Detail Report (or MMR), the Model Output Report (or MOR), the Plan Communication User Guide (or PCUG), and the Annual Rate Announcement.

Please select the NEXT button to continue.

## Monthly Membership Detail Report



STEP 1 Gather Reports & Resources  
Part D (RxHCC) Beneficiary

To Monthly Membership Detail Report (MMR)

Will The Monthly Membership Detail Report provides Plans with beneficiary demographic and status information that was used for risk score calculation for a specific payment month. You will need the data found in this report to complete Step 3 of the risk score calculation process.

- Annual Rate Announcement(s)

RESOURCES

The Monthly Membership Detail Report provides Plans with beneficiary demographic and status information. You will need the data found in this report to complete Step 3 of the risk score calculation process.

## Model Output Report

**STEP 1** Gather Reports & Resources MENU

Part D (RxHCC) Beneficiary

**Model Output Report (MOR)**

To accurately calculate Mr. Daniels' risk score, you will need the following information:

- Monthly Model Output Report (MOR) i
- Plan Communication User Guide (PCUG) i
- Annual Rate Announcement(s)

Recall from Module 2 that the Model Output Report is a monthly report that lists the diseases applicable to each beneficiary. You will need the data from this report to complete Step 3 in the risk score calculation process.

RESOURCES

Recall from Module 2 that the Model Output Report is a monthly report that lists the diseases applicable to each beneficiary. You will need the data from this report to complete Step 3 in the risk score calculation process.

## Plan Communication User Guide

**STEP 1** Gather Reports & Resources MENU

Part D (RxHCC) Beneficiary

To accurately calculate Mr. Daniels' risk score, you will need the following information:

- Monthly Model Output Report (MOR) i
- Plan Communication User Guide (PCUG) i
- Annual Rate Announcement(s)

The PCUG provides layout and field description information for the MMR and MOR.

RESOURCES

The PCUG provides layout and field description information for the MMR and MOR.

## Annual Rate Announcement

SHOW ME

To ensure that you are entering correct data into the risk score calculation formula, first you must verify which payment year your risk score calculation should be based on. For this scenario, Mr. Daniels' risk score calculations will be based on Payment Year 2022.

You will therefore need to refer to the 2022 Rate Announcement to determine which risk adjustment payment model to use.

Select the SHOW ME button to learn how.

**RATE ANNOUNCEMENT(S)**

1

January 15, 2021

**NOTE TO: Medicare Advantage Organizations, Prescription Drug Plan Sponsors, and Other Interested Parties**

**Announcement of Calendar Year (CY) 2022 Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies**

In accordance with section 1853(b)(1) of the Social Security Act, we are notifying you of the annual capitation rate for each Medicare Advantage (MA) payment area for CY 2022 and the risk and other factors to be used in adjusting such rates.

CMS received many submissions in response to our request for comments on Part I of the Advance Notice of Methodological Changes for CY 2022 MA Capitation Rates and Part C and Part D Payment Policies (CY 2022 Advance Notice), published on September 14, 2020, and Part II of the CY 2022 Advance Notice, published on October 30, 2020. Commenters included professional organizations, MA and Part D sponsors, advocacy groups, state Medicaid agencies, pharmaceutical manufacturers, pharmacy benefit managers, pharmacies, and interested persons. After considering all comments received, we are finalizing a number of policies in the Announcement of CY 2022 MA Capitation Rates and Part C and Part D Payment Policies (CY 2022 Rate Announcement) that reflect CMS' continued commitment to providing MA

RESOURCES

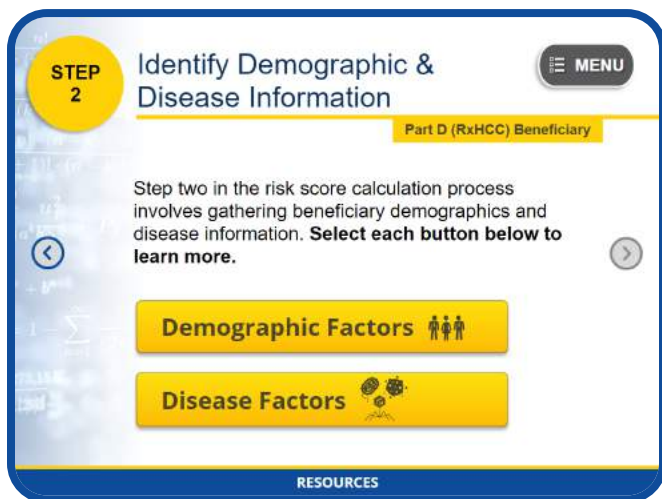
To verify which risk adjustment payment model you'll need to use for 2022 risk score calculation, reference the 2022 Rate Announcement and scroll to the section that describes the RxHCC risk adjustment model. The information in this section states that CMS finalized the updated version of the RxHCC risk adjustment model, as proposed in the 2022 Advance Notice, that uses diagnosis data from 2017 "fee for service" claims and MA

encounter data submissions, along with expenditure data from 2018 prescription drug events. Therefore, we must use the 2022 RxHCC payment risk adjustment model to calculate Mr. Daniels' risk score.

The 2022 RxHCC Risk Adjustment model factors, which are required to complete Step 3 of the risk score calculation process, are also included in the 2022 Rate Announcement.

Select the NEXT button to continue.

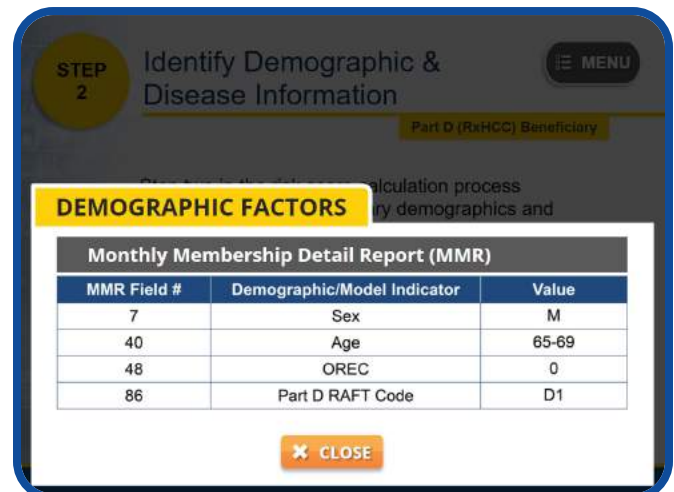
## Step 2: Identify Demographics & Disease Information



The next step in the risk score calculation process involves gathering Mr. Daniels' demographics and disease information.

Please select each button below to learn more. When you have finished reviewing each section, select the NEXT button to continue.

## Demographic Factors



To gather Mr. Daniels' demographic information, you will need to reference the Monthly Membership Detail Report.

The highlighted data shown on this MMR table are required demographic and model indicators that you will need to compute the sum of Mr. Daniels' demographic relative factors during Step 3 of this process.

The "M" value in field 7 indicates that this beneficiary is a male.

The value in field 40 indicates that this beneficiary is in the 65–69 age group.

The number "0" value in field 48 indicates that this beneficiary is Medicare eligible due to age.

Finally, the "D1" Part D RAFT Code value in field 86 indicates that this beneficiary is categorized as a non-low-income continuing enrollee residing in the community.



## Disease Factors

To gather Mr. Daniels' disease information, or RxHCCs, you will need to reference the Model Output Report.

Take a moment to review Mr. Daniels' information shown on your screen. Notice that the payment RxHCCs identified for this beneficiary are RxHCC19, Breast and Other Cancers and Tumors, and RxHCC97, Immune Disorders. You will need this information when computing the sum of Mr. Daniels' disease relative factors in Step 3.

### Note #1: Scenario 4

The Part D Low-Income Subsidy (or LIS) provides extra help with prescription drug costs for eligible individuals whose income and resources are limited. The LIS provides premium and cost-sharing (including deductibles and cost-sharing during the coverage gap) associated with the Part D benefit.

## Step 3: Identify Relative Factors & Adjustment Factors

The next step is to gather Mr. Daniels' relative factors and adjustment factors.

Please select each button below to learn more. When you have finished reviewing each section, select the NEXT button to continue.

### Relative Factors

To gather Mr. Daniels' demographic relative factors and disease relative factors, open the 2022 Rate Announcement and navigate to the RxHCC Risk Adjustment Factors section.

Since we know that Mr. Daniels' is a Part D beneficiary, Table VIII-1 and VIII-4 may apply. We know from the Part D RAFT code that Mr. Daniels is a continuing enrollee. Therefore, the most appropriate table to use when looking up Mr. Daniels' relative factors is Table

VIII-1: RxHCC Model (2017/2018) Relative Factors for Continuing Enrollees.

Click on the name of this table to continue.

**RELATIVE FACTORS**

Table VIII-1. RxHCC Model (2017/2018) Relative Factors for Continuing Enrollees

Variable	Disease Group	Community, Non-Low Income, Age ≥ 65	Community, Non-Low Income, Age < 65	Community, Low Income, Age ≥ 65	Community, Low Income, Age < 65	Institutional
<b>Female</b>						
0-34 Years		-	0.215	-	0.447	2.020
35-44 Years		-	0.372	-	0.612	2.017
45-54 Years		-	0.429	-	0.680	1.760
55-59 Years		-	0.392	-	0.615	1.575
60-64 Years		-	0.355	-	0.524	1.397
65-69 Years		0.196	-	0.327	-	1.289
70-74 Years		0.201	-	0.299	-	1.177
<b>Male</b>						
0-34 Years		-	0.192	-	0.484	1.932
35-44 Years		-	0.293	-	0.570	1.881
45-54 Years		-	0.332	-	0.584	1.693
55-59 Years		-	0.366	-	0.560	1.490
60-64 Years		-	0.365	-	0.506	1.327
65-69 Years		0.196	-	0.327	-	1.289
70-74 Years		0.201	-	0.299	-	1.177

**RESOURCES**

Now that we have selected the correct table, we need to determine which column to use.

Take a few moments to review the headings for each of the five columns highlighted on your screen. Given what you know about Mr. Daniels, which one best fits his status?

Go ahead; select the name of the column you think we should use.

Well done!


In Step 2, we learned that Mr. Daniels is a 65 to 69 year old, non-low-income enrollee residing in the community. Therefore, we should reference the "Community, Non-Low Income, Age ≥ 65" column to gather his demographic and disease relative factors.

Select the button on your screen to continue.


**RELATIVE FACTORS**

To calculate Mr. Daniels' risk score, you will need to first compute the sum of his demographic relative factors as well as the sum of his disease relative factors.

Select each button below to learn more.



Sum of Demographic Relative Factors



Sum of Disease Relative Factors

**RESOURCES**

To calculate Mr. Daniels' risk score, you must first compute the sum of his demographic relative factors as well as the sum of his disease relative factors.

Select each button below to learn more.

**Demographic Factors**

**RELATIVE FACTORS | Demographic Factors**

Table VIII-1. RxHCC Model (2017/2018) Relative Factors for Continuing Enrollees

Variable	Disease Group	Community, Non-Low Income, Age ≥ 65	Community, Non-Low Income, Age < 65	Community, Low Income, Age ≥ 65	Community, Low Income, Age < 65	Institutional
<b>Female</b>						
0-34 Years		-	0.215	-	0.447	2.020
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65-69 Years		0.196	-	0.327	-	1.289
70-74 Years		0.201	-	0.299	-	1.177

**RESOURCES**

To calculate the sum of Mr. Daniels' demographic relative factors, you must first identify the correct factor for each relevant demographic variable.

Since we know that Mr. Daniels is a male aged 65 to 69, we need to capture the value displayed in the cell that intersects row "65 to 69 Years," and the "Community, Non-Low Income, Age ≥ 65" column, which is 0.196.

The only other factor we may need to account for in order to determine Mr. Daniels' demographic relative factor, is his "Originally Disabled" factor.

Since Mr. Daniels was eligible for Medicare due to age,

the “Originally Disabled” factor does not apply. Therefore, Mr. Daniels’ demographic relative factor, using the 2022 RxHCC payment model, is 0.196.

Select the NEXT button to continue.

### Disease Factors

**RELATIVE FACTORS | Disease Factors**

Table VIII-1. RxHCC Model (2017/2018) Relative Factors for Continuing Enrollees

RxHCC	Disease	Community, Income < 65	Community, Income ≥ 65	Institutional
RxHCC18	Brain, Lung Cancer	0.112	0.107	0.443
RxHCC19	Breast, Kidney, and Other Cancers; Tumors	0.110	0.055	0.131
RxHCC87	Chronic Kidney Disease	0.062	0.209	0.165
RxHCC95	Diabetes	0.132	0.289	0.121
RxHCC96	Stroke/Transient Ischemic Attack and Myocardial Infarction	1.403	1.567	1.204
RxHCC97	Immune Disorders	0.782	0.582	0.825
RxHCC98	Alzheimer's Disease and Other Significant Mental Disorders	0.132	0.170	0.121
RxHCC111	Alzheimer's Disease	0.265	0.153	0.101

**RESOURCES**

Using the same table (Table VIII-1) and the “Community, Non-Low Income, Age ≥ 65” column that we used to gather Mr. Daniels’ demographic relative factors, the next step in the process is to locate the values for each of Mr. Daniels’ disease factors (or RxHCCs) in order to compute the sum of his disease relative factors.

During our MOR review in Step 2, we confirmed that Mr. Daniels has two RxHCCs:

- RxHCC19, Breast and Other Cancer and Tumors, and
- RxHCC97, Immune Disorders.

To identify the relative factor for RxHCC19, we must capture the value displayed in the cell intersecting the “Community, Non-Low Income, Age ≥ 65” column and row “RxHCC19,” which is 0.110.

To identify the relative factor for RxHCC97, we must capture the value displayed in the cell intersecting the “Community, Non-Low Income, Age ≥ 65” column and row “RxHCC97,” which is 0.782.

Since there are no disease or disabled/disease interactions for this beneficiary, to compute the sum of Mr. Daniels’ disease relative factors, simply add the rela-

tive factor for RxHCC19, which is 0.110, to the relative factor for RxHCC97, which is 0.782.

This makes the sum of Mr. Daniels’ disease relative factors, using the 2022 RxHCC payment model, 0.892.

Select the NEXT button to continue.

### Adjustment Factors

**ADJUSTMENT FACTORS**

It is now time to review the adjustment factor you will need to apply when calculating Mr. Daniels’ risk score. **Select the Normalization Factor button below to learn more.**

**Normalization Factor**

**MA Coding Pattern Adjustment Factor**

**RESOURCES**

It is now time to review the adjustment factor you will need to apply when calculating Mr. Daniels’ risk score.

Please note that when calculating risk scores using a Part D model, the MA coding pattern adjustment factor should not be applied.

Select the NORMALIZATION FACTOR button on your screen to learn more. When you are finished, select the NEXT button to continue.



## Normalization Factor

**ADJUSTMENT FACTORS | Normalization**

The Normalization Factor adjusts for population and coding changes between the denominator year and the payment year.

To locate the normalization factor information needed to calculate Mr. Daniels' 2022 risk score, you will need to reference the 2022 Rate Announcement. **Select the button below to learn more.**

**SHOW ME**

RESOURCES

The normalization factor adjusts for population and coding changes between the denominator year and the payment year.

To locate the normalization factor information for calculating Mr. Daniels' 2022 risk score, you will need to reference the 2022 Rate Announcement.

Select the SHOW ME button on your screen to learn more.

**ADJUSTMENT FACTORS | Normalization**

than estimated in the Advance Notice.

**Calculation of FFS Costs:** The Secretary has directed the CMS Office of the Actuary to adjust the FFS experience for beneficiaries enrolled in Puerto Rico to reflect the propensity of "zero-dollar" beneficiaries nationwide.

**2022 RxHCC Normalization Factor 1.043.** CMS is finalizing the 2022 RxHCC normalization factor for the 2017/2018 RxHCC model calculated using the linear slope methodology with four years of data (2016-2019) instead of five years, as discussed below.

**Medicare Part D Benefit Parameters – Annual Adjustments for Defined Standard Benefit in 2022:** Attachment V provides the 2022 Part D benefit parameters for the defined standard benefit, low-income subsidy, and retiree drug subsidy.

**Location of Network Areas for Private Fee-for-Service (PFSS) Plans in Plan Year 2023:** The list of network areas for plan year 2023 will be provided in a separate announcement and made available on the CMS website by the first Monday in April.

**Policies Adopted as Described**

As in past years, policies in the Advance Notice that are not modified or retracted in the Rate Announcement become effective for the upcoming payment year. Clarifications in the Rate Announcement supersede information in the Advance Notice and prior Rate Announcements as they apply for payment year 2022.

RESOURCES

Open the 2022 Rate Announcement by selecting the RESOURCES button below and navigate to the "2022 RxHCC Normalization Factors" section. The normalization factor listed is 1.043. This is the value we will use when computing Mr. Daniels' risk score.

Select the NEXT button to continue.



Great job! You have gathered all the values needed to complete the fourth and final step of the risk score calculation process.

Select the NEXT button to continue.

## Note #2: Scenario 4

**S4 Risk Score Calculation**

Part D (RxHCC) Beneficiary

**NOTE #2**

While both the CMS-HCC and the RxHCC models use health status or diagnoses to predict expenditures, the total expenditures that each model is predicting are quite different. The CMS-HCCs model predicts medical costs while the RxHCC model predicts prescription drug costs. Therefore, depending on the model you are using, you may find different weights on similar HCCs, as well as different risk scores for an individual beneficiary when calculating their payment risk scores under different models.

STEP 4 Calculate the risk score

STEP 3 Identify relative factors and adjustment factors

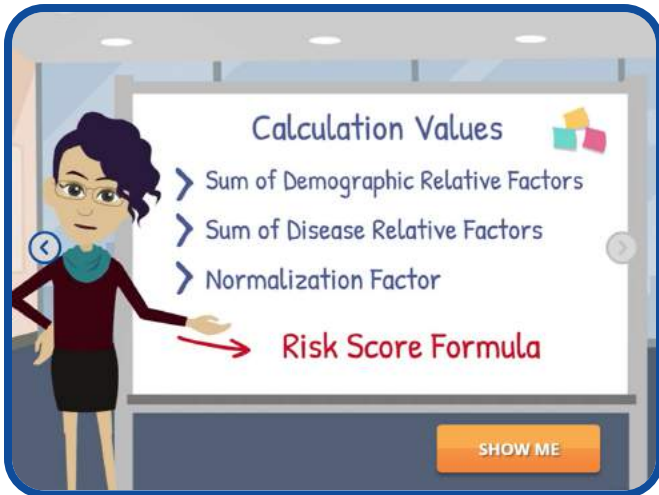
RESOURCES

While both the CMS-HCC and the RxHCC models use health status or diagnoses to predict expenditures, the total expenditures that each model is predicting are quite different. The CMS-HCC model predicts medical costs while the RxHCC model predicts prescription drug costs.

Therefore, depending on the model you are using, you may find different weights on similar HCCs, as well as different risk scores for an individual beneficiary when calculating their payment risk scores under different models.



## Step 4: Using the Risk Score Formula



It is finally time to calculate Mr. Daniels' risk score!

In this step, we will enter the values generated in Step 3 — the sum of demographic relative factors, sum of disease relative factors, and the normalization factor — into the risk score formula to produce Mr. Daniels' final risk score for Payment Year 2022.

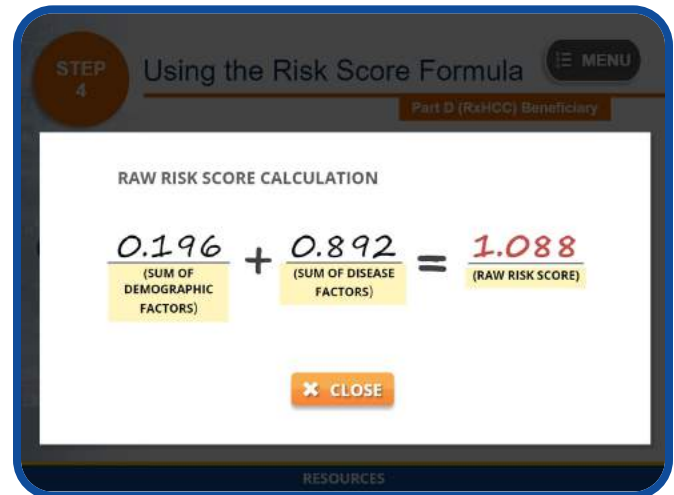
Select the SHOW ME button on your screen to learn more.



When using the risk score formula, we must perform several steps to accurately compute Mr. Daniels' final payment risk score. Select each button below to learn more.

When you are finished, select the NEXT button to continue.

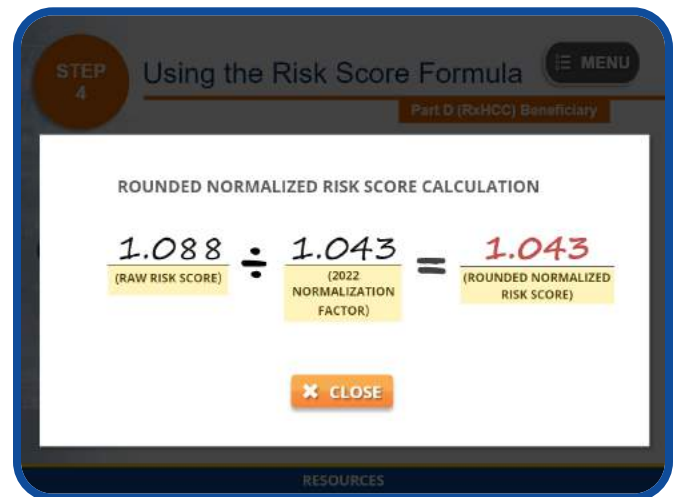
### 1. Calculate the Raw Risk Score



The first step is to compute Mr. Daniels' raw risk score by adding the sum of his demographic factors, which is 0.196, to the sum of disease factors, which is 0.892.

Mr. Daniels' raw risk score is 1.088.

### 2. Calculate the Rounded Normalized Risk Score



Next, you must divide the raw risk score, 1.088, by the 2022 normalization factor, which is 1.043, to get a normalized score of 1.04314. You must round this number to the third decimal place to get a rounded normalized score of 1.043.

Since MA coding pattern adjustment is not applied to Part D models, 1.043 is Mr. Daniels' final Part D risk score for Payment Year 2022.

## Scenario 4 Conclusion



Congratulations! You have just completed the four-step process of calculating Mr. Daniels' Part D risk score.

From gathering the necessary reports and resources and finding beneficiary demographic and disease information to identifying relative and adjustment factors and using the risk score formula, you now know how to compute the 2022 payment risk score for a Part D beneficiary.

There are three additional scenarios in this module. To choose another scenario, simply select the CHOOSE SCENARIO button displayed on your screen. Otherwise, select the NEXT button to continue.

**CHOOSE SCENARIO**

## Conclusion

In this course you learned about the history and process of risk adjustment, the resources you'll need, and how to use the risk score formula to calculate or validate a beneficiary's risk score for payment year 2022.

If you have questions about the information covered in this course, you may email us at

[RiskAdjustmentPolicy@cms.hhs.gov](mailto:RiskAdjustmentPolicy@cms.hhs.gov).

**CONGRATULATIONS!**

**YOU HAVE JUST COMPLETED  
THE RISK ADJUSTMENT  
METHODOLOGY COURSE.**



[RiskAdjustmentPolicy@cms.hhs.gov](mailto:RiskAdjustmentPolicy@cms.hhs.gov)