Risk Score Calculation

November 28, 2018

Purpose

- Demonstrate how CMS performs risk score calculations using examples with different beneficiary characteristics and payment years

Learning Objectives

- Describe the sources and flow of risk adjustment data

- Identify demographic and diagnostic information used for risk score calculation from reports

- Calculate risk scores

Risk Adjustment Data Processing Flow
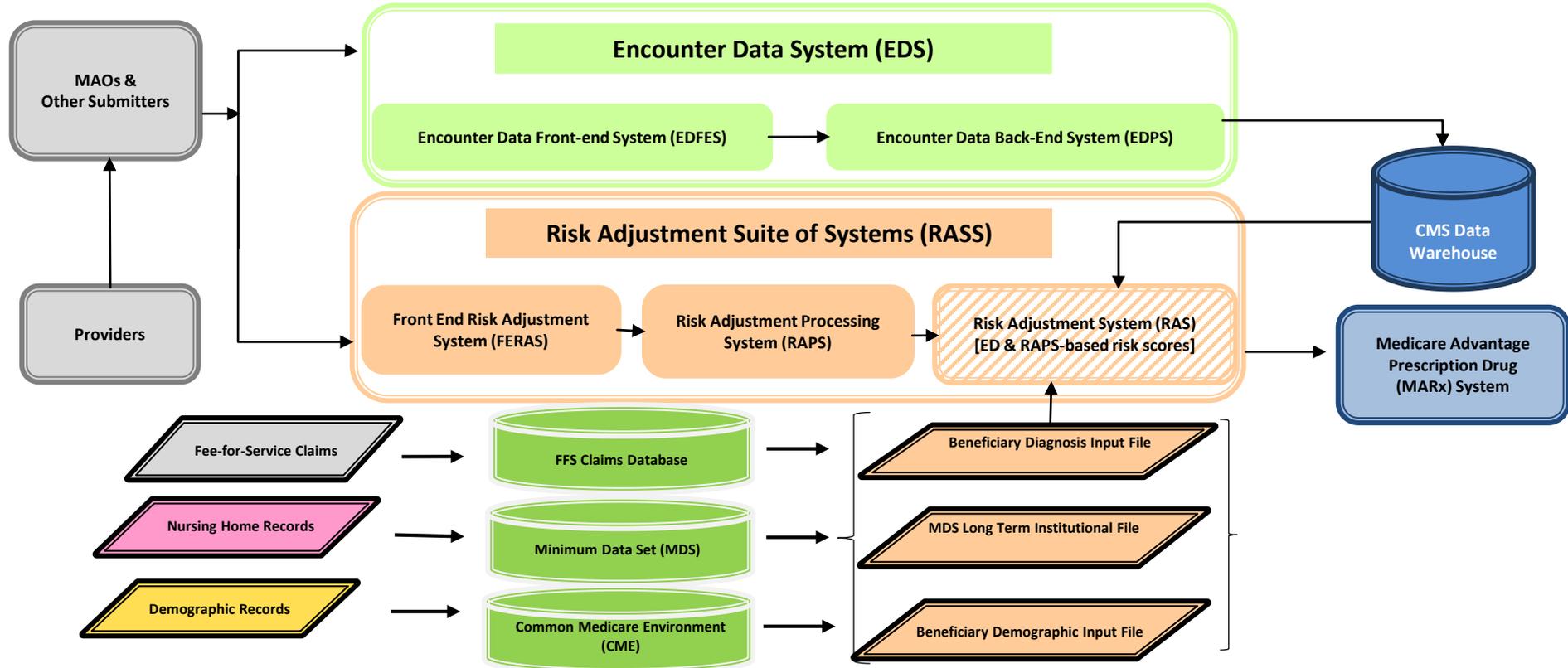
Part C Risk Score Calculation Process Checklist

1. Retrieve reports:
   – Monthly Membership Report (MMR)
   – Model Output Report (MOR)
2. Identify demographic and disease information for each beneficiary
3. Identify relative factors in the risk adjustment model based on demographics and disease information
4. Use relative factors to calculate risk scores

Demographic Data & Statuses for Risk Score Calculation

- Age
- Gender (Sex)
- Original Reason for Entitlement Code (OREC)
- Medicaid Dual Status – used to determine community model segment for risk score calculation
- Long Term Institutional Status
  - Medicaid Status
- Frailty

SCENARIO #1

Scenario 1: Calculate Part C Risk Score

- You are an analyst at an MAO and need to calculate the risk score for Mr. Eggers, who has the following characteristics:
  - Age = 83
  - Gender = M
  - Payment Date = 201907
  - Not LTI
  - Not originally eligible for disability
  - Full dual eligible
  - Not eligible for frailty adjustment
- CMS provides the MMR and MOR for your contract that contains this beneficiary's information to assist you in your calculations

Demographic Information on the MMR

- Risk Adjustment Age Group (RAAG): Field 40
  - The field includes a Beginning Age (BB) and Ending Age (EE)
- Beneficiary's Gender Code: Field 7
  - M = Male
  - F = Female
- For Mr. Eggers:
  - RAAG = 80-84
  - Gender = M
  - Payment Date = 201907

Status Indicators on the MMR

- Institutional LTI Indicator: Field 20
  - Y = Part C LTI
  - Space = Not LTI
- Medicaid – Field 39
  - 1 = Beneficiary is determined to be full or partial Medicaid
  - 0 = Beneficiary is not Medicaid
  - Space = This is a retroactive adjustment for a month prior to January 2017

- Frailty Indicator: Field 47
  - Y = Frailty Factor included
  - N = No Frailty Factor
- OREC: Field 48
  - 0 = Beneficiary insured due to age
  - 1 = Beneficiary insured due to disability
  - 2 = Beneficiary insured due to ESRD
  - 3 = Beneficiary insured due to disability and current ESRD
  - 9 = None of the above

Medicaid Dual Status Code on MMR

Field 84

00 = No Medicaid status

01 = Eligible – entitled to Medicare – QMB only (Partial Dual)

02 = Eligible – entitled to Medicare – QMB AND Medicaid coverage (Full Dual)

03 = Eligible – entitled to Medicare – SLMB only (Partial Dual)

04 = Eligible – entitled to Medicare – SLMB AND Medicaid coverage (Full Dual)

05 = Eligible – entitled to Medicare – QDWI (Partial Dual)

06 = Eligible – entitled to Medicare – Qualifying individuals (Partial Dual)

08 = Eligible – entitled to Medicare – Other Dual Eligibles (Non QMB, SLMB, QDWI, or QI) with Medicaid coverage (Full Dual)

09 = Eligible – entitled to Medicare – Other Dual Eligibles but without Medicaid coverage (Non-Dual)

10 = Other Full Dual

99 = Unknown

RAFT Codes and Default Risk Factor Codes

- Both appear on the MMR Data File
  - Risk Adjustment Factor Type (RAFT) codes (Field 46) describe the model and segment used to calculate a beneficiary's risk score
  - Default factor codes (Field 23) used when a RAFT code is not assigned
- Mr. Eggers:
  - RAFT code = CF (Community, Full Dual)
  - Default factor code = <space>

RAFT Codes on MMR

C = Community (Adjustments before 2017; PACE only beginning 1/2017)
C1 = Community Post-Graft I (ESRD)
C2 = Community Post-Graft II (ESRD)
CF = Community Full Dual
CP = Community Partial Dual
CN = Community Non-Dual
D = Dialysis (ESRD)
E = New Enrollee
ED = New Enrollee Dialysis (ESRD)
E1 = New Enrollee Post-Graft I (ESRD)
E2 = New Enrollee Post-Graft II (ESRD)
G1 = Graft I (ESRD)
G2 = Graft II (ESRD)

I = Institutional
I1 = Institutional Post-Graft I (ESRD)
I2 = Institutional Post-Graft II (ESRD)
SE = New Enrollee Chronic Care SNP
PA = PACE Dialysis Factor
PB = PACE New Enrollee Dialysis Factor
PC = PACE Community Post Graft 4-9
PD = PACE Institutional Post Graft 4-9
PE = PACE New Enrollee Post Graft 4-9
PF = PACE Community Post Graft 10+
PG = PACE Institutional Post Graft
PH = PACE New Enrollee Post Graft 10+

Default Factor Codes on MMR

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

Frailty Factor/Frailty Score on MMR

- Mr. Eggers Frailty Indicator = N (no frailty)
  - If the Frailty Indicator had been Y, then the Frailty Score Factor would appear in Field 80 to be used in the calculation

Scenario #1 Eggers – Demographic/Model Indicators

MMR Field #	Demographic/Model Indicator	Value
7	Gender	M
20	Part C LTI	<SPACE>
23	Default 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

*The Payment Date = 201907 and is located in the MMR Detail Report Header Record in Field 3

Determining Disease Component of Risk Score: HCC Relative Factors and Interactions

- Hierarchical Condition Categories (HCCs)
- Hierarchies
- Interactions
- Functioning Graft Factors (if applicable)

Disease Coefficients for Eggers Scenario #1

```
1RUN DATE: 20190610                 RISK ADJUSTMENT MODEL OUTPUT REPORT
 PAYMENT MONTH: 201907              PLAN: H9999 SAMPLE MOR Report
0               LAST            FIRST
 HIC            NAME            NAME            I
 ------------   --------------- --------------- -


 999456789A   Eggers        Beneficiary      O
 V22 HCC DISEASE  GROUPS:   HCC019 Diabetes without Complication
                            HCC111 Chronic Obstructive Pulmonary Disease
```

*This MOR excerpt was created for this example and does not refer to an actual beneficiary

Mr. Eggers Scenario #1 – HCCs and Model

HCCs from MOR:	19, 111
Payment Year:	2019
Risk Adjustment Model:	2017 CMS-HCC Model

Risk Score Calculation Overview

Risk Adjustment Model Variables and Adjustments	
Demographic Variables • Age / Sex • Originally Disabled	There are relative factors associated with each demographic variable.
Disease Variables • Disease Hierarchical Condition Categories (HCC) • Disease / Disabled Interactions	CMS uses diagnoses submitted by plans to assign HCCs and interactions for each beneficiary. There are relative factors associated with each HCC and interaction.
Sum of Factors *Demographic + Disease = raw risk score*	The relative factors for all of the demographic variables, HCCs, and interactions are added together. The result is the raw risk score.

Risk Score Calculation Overview (cont.)

Adjustments Applied to the Raw Risk Score	
Normalization	• Adjusts for the growth in risk scores between the denominator year and the payment year • Keeps the average risk score = 1.0
MA Coding Pattern Adjustment	• Accounts for differential in coding patterns between MA and FFS
Risk score = *[(raw risk score) / (normalization factor)] X (1 – coding adjustment factor)*	

Adjustments to Risk Scores

2019 Normalization Factors	
Model	**Factor**
2019 CMS-HCC Model (without count variable)	1.038
2017 CMS-HCC Model	1.041
PACE Model	1.159
ESRD Dialysis Model	1.033
ESRD Functioning Graft Model	1.048
RxHCC Model (2018 RxHCC Model)	1.019

2019 MA Coding Pattern Adjustment
MA Coding Pattern Adjustment = 5.90%

Part C Risk Score Calculation for PY 2019

For PY 2019, risk scores will be calculated independently and then blended at 75%/25%:

- **Portion of risk score based on RAPS & FFS data using the 2017 CMS-HCC model: 75%**

   [(raw risk score from RAPS + FFS diagnoses) / (PY 2019 normalization factor for 2017 model)] X (1 – PY 2019 coding adjustment factor) X 75% = portion of the risk score from RAPS & FFS

- **Portion of risk score based on ED, RAPS inpatient records & FFS data using the 2019 CMS-HCC model (i.e., updated CMS-HCC model without count variables): 25%**

   [(raw risk score from ED + RAPS inpatient records + FFS diagnoses) / (PY 2019 normalization factor for 2019 model)] X (1 – PY 2019 coding adjustment factor) X 25% = portion of the risk score from ED & FFS

- **Blended risk score = 2017 CMS-HCC model (RAPS & FFS data) portion of the risk score + 2019 CMS-HCC model (ED, RAPS inpatient, and FFS data) portion of the risk score**

Mr. Eggers Scenario #1 – Model Factors

	2017 CMS-HCC Model	2019 CMS-HCC Model
Normalization Factor:	1.041	1.038
Coding Intensity Factor:	0.059	0.059
Frailty Factor:	0	0

2017 Demographic Coefficients for Mr. Eggers Scenario #1

- Age/Sex factor
- Medicaid Dual Status
- Disability

2017 CMS-HCC Model

Variable	Description Label	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, PBDual, Aged	Community, PBDual, Disabled	Institutional
Male								
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		0.561	-	0.816	-	0.546	-	1.189
85-89 Years		0.694	-	1.009	-	0.679	-	1.129
80-84 Years		**0.561**	**-**	**0.816**	**-**	**0.546**	**-**	**1.189**

2019 Demographic Coefficients for Mr. Eggers Scenario #1

- Age/Sex factor
- Medicaid Dual Status
- Disability

2019 CMS-HCC Model

Variable	Description Label	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, PBDual, Aged	Community, PBDual, Disabled	Institutional
Male								
0-34 Years		-	0.143	-	0.220	-	0.367	1.098
35-44 Years		-	0.184	-	0.209	-	0.258	0.999
45-54 Years		-	0.226	-	0.280	-	0.288	0.961
55-59 Years		-	0.272	-	0.374	-	0.317	1.014
60-64 Years		-	0.315	-	0.499	-	0.349	1.058
65-69 Years		0.301	-	0.478	-	0.358	-	1.284
70-74 Years		0.388	-	0.597	-	0.420	-	1.326
75-79 Years		0.472	-	0.724	-	0.502	-	1.316
80-84 Years		0.564	-	0.837	-	0.554	-	1.208
85-89 Years		0.707	-	1.055	-	0.678	-	1.122
90-94 Years		0.872	-	1.720	-	0.862	-	0.990
80-84 Years		**0.564**	**-**	**0.837**	**-**	**0.554**	**-**	**1.208**

Mr. Eggers Scenario #1 – Demographic Factors

	Status	Factors 2017 CMS-HCC Model	Factors 2019 CMS-HCC Model
Age/Sex Factor:	M 80-84	0.816	0.837
Medicaid Factor (LTI):	0	0	0
OREC Factor:	0	0	0
Medicaid Dual Status *(used for community segment selection)*:	02	—	—
Sum of Demographic Relatives:		**0.816**	**0.837**

Factors for Mr. Eggers Scenario #1 HCCs

2017 CMS-HCC Model

Variable	Description Label	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, PBDual, Aged	Community, PBDual, Disabled	Institutional
Disease Coefficients								
HCC19	Diabetes without Complication	0.104	0.128	0.097	0.160	0.098	0.136	0.160
HCC111	Chronic Obstructive Pulmonary	0.328	0.262	0.422	0.354	0.358	0.293	0.305

2019 CMS-HCC Model

Variable	Description Label	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, PBDual, Aged	Community, PBDual, Disabled	Institutional
Disease Coefficients								
HCC19	Diabetes without Complication	0.106	0.123	0.108	0.149	0.089	0.125	**0.179**
HCC111	Chronic Obstructive Pulmonary Disease	0.335	0.244	0.430	0.333	0.356	0.269	0.311

Mr. Eggers Scenario #1 – HCCs

	HCCs	Factors 2017 CMS-HCC Model	Factors 2019 CMS-HCC Model
Disease HCCs:	19	0.097	0.108
	111	0.422	0.430
Sum of Disease Relatives:		**0.519**	**0.538**

Mr. Eggers Scenario #1 – Calculations – Blended 2019 Risk Score (Slide 1 of 3)

<u>Portion of risk score based on RAPS & FFS data using the 2017 CMS-HCC model: 75%</u>

[(raw risk score from RAPS + FFS diagnoses) / (PY 2019 normalization factor for 2017 model)] X (1 – PY 2019 coding adjustment factor) X 75% = portion of the risk score from RAPS & FFS data.

Raw Risk Score =	0.816	+	0.519	=	1.335
Normalized Score =	1.335	/	1.041	=	1.28242
Round =	1.282				
Coding Intensity =	1.282	*	(1-0.0590)	=	1.20636
Round =	1.206				
75% Portion of Risk Score =	1.206	*	0.75		0.905

Mr. Eggers Scenario #1 – Calculations – Blended 2019 Risk Score (Slide 2 of 3)

Portion of risk score based on ED, RAPS inpatient records & FFS data using the 2019 CMS-HCC model (i.e., updated CMS-HCC model without count variables): 25%

[(raw risk score from ED + RAPS inpatient records + FFS diagnoses) / (PY 2019 normalization factor for 2019 model)] X (1 – PY 2019 coding adjustment factor) X 25% = portion of the risk score from ED & FFS.

Raw Risk Score =	0.837	**+**	0.538	**=**	1.375
Normalized Score =	1.375	/	1.038	**=**	1.32466
Round =	1.325			
Coding Intensity =	1.325	*	(1-0.0590)	**=**	1.24683
Round =	1.247			
25% Portion of Risk Score =	1.247	*	0.25	**=**	**0.312**

Mr. Eggers Scenario #1 – Calculations – Blended 2019 Risk Score (Slide 3 of 3)

2017 CMS-HCC model (RAPS & FFS) portion of the risk score		0.905
2019 CMS-HCC model (ED, RAPS inpatient, and FFS) portion of the risk score	+	0.312
Blended Risk Score	=	1.217

Risk Score Calculation Scenarios

SCENARIO #2

Status Indicators on the MMR

- Institutional LTI Indicator: Field 20
  - Y = Part C LTI
  - Space = Not LTI

- Medicaid Add-on Factor: Field 21
  - 1 = Indicator that the RASS Medicaid Add-on score was used for this payment or adjustment for a beneficiary that is enrolled in a PACE plan or has ESRD or LTI status
  - Space = No Medicaid Add-on was used in the payment

Ms. Doe Scenario #2 Demographic/Model Indicators

MMR Field #	Demographic/Model Indicator	Value
7	Gender	F
20	Part C LTI	Y
21	Medicaid Add-on Factor	1
23	Default Factor Code	SPACE
40	Age	70-74
48	OREC	0
46	RAFT Code	I
47	Frailty Indicator	N

Ms. Doe Scenario #2 HCCs and Model

```
1RUN DATE: 20190610          RISK ADJUSTMENT MODEL OUTPUT REPORT                    PAGE:   1
PAYMENT MONTH: 201907            PLAN: H9999 SAMPLE MOR Report                          RAPMORP1
0                 LAST        FIRST                              DATE OF
HIC               NAME        NAME      I                        BIRTH   SEX & AGE GROUP  ESRD
-----------  --------------  --------------  ---------  -        --------  ----------------------------  ----


999567891B   DOE           EXAMPLE      E                       19451027 Female70-74          N
V22 HCC DISEASE  GROUPS: HCC019 Diabetes without Complication
                         HCC047 Disorders of Immunity
                         HCC079 Seizure Disorders and Convulsions
```

*This MOR excerpt was created for this example and does not refer to an actual beneficiary

HCCs from MOR:	19, 47, 79
Payment Year:	2019
Risk Adjustment Model:	2017 CMS-HCC Model

Ms. Doe Scenario #2 Model Factors

	2017 CMS-HCC Model	2019 CMS-HCC Model
Normalization Factor:	1.041	1.038
Coding Intensity Factor:	0.059	0.059
Frailty Factor:	0	0

Ms. Doe Scenario #2 Demographic Factors

	Status	Factors 2017 CMS-HCC Model	Factors 2019 CMS-HCC Model
Age/Sex Factor:	F 70-74	1.092	1.148
OREC Factor:	0	0	0
Medicaid Factor (LTI):	1	0.062	0.061
Sum of Demographic Relatives:		**1.154**	**1.209**

Ms. Doe Scenario #2 HCCs

	HCCs	Factors	Factors
		2017 CMS-HCC	**2019 CMS-HCC**
Disease HCCs:	19	0.160	0.179
	47	0.529	0.577
	79	0.088	0.065
Sum of Disease Relatives:		**0.777**	**0.821**

Ms. Doe Scenario #2 – Calculations – Blended 2019 Risk Score (Slide 1 of 3)

Portion of risk score based on RAPS & FFS using the 2017 CMS-HCC model: 75%

[(raw risk score from RAPS + FFS diagnoses) / (PY 2019 normalization factor for 2017 model)] X (1 – PY 2019 coding adjustment factor) X 75% = portion of the risk score from RAPS & FFS .

Raw Risk Score =	1.154	+	0.777	=	1.931
Normalized Score =	1.931	/	1.041	=	1.85495
Round =	1.855				
Coding Intensity =	1.855	*	(1-0.0590)	=	1.74556
Round =	1.746				
75% Portion of Risk Score =	1.746	*	0.75		1.310

Ms. Doe Scenario #2 – Calculations – Blended 2019 Risk Score (Slide 2 of 3)

Portion of risk score based on ED, RAPS inpatient records & FFS using the 2019 CMS-HCC model (i.e., updated CMS-HCC model without count variables): 25%

[(raw risk score from ED + RAPS inpatient records + FFS diagnoses) / (PY 2019 normalization factor for 2019 model)] X (1 – PY 2019 coding adjustment factor) X 25% = portion of the risk score from ED & FFS.

Raw Risk Score =	1.209	+	0.821	=	2.030
Normalized Score =	2.030	/	1.038	=	1.95568
Round =	1.956				
Coding Intensity =	1.956	*	(1-0.0590)	=	1.84060
Round =	1.841				
25% Portion of Risk Score =	1.841	*	0.25		0.460

Ms. Doe Scenario #2 – Calculations – Blended 2019 Risk Score (Slide 3 of 3)

2017 CMS-HCC model (RAPS & FFS) portion of the risk score		1.310
2019 CMS-HCC model (ED, RAPS inpatient, and FFS) portion of the risk score	+	0.460
Blended Risk Score	=	1.770

SCENARIO #3

Ms. Sunny Scenario #3 Part D Demographics

MMR Field #	Demographic/Model Indicator	Value
7	Gender	F
40	Age	80-84
48	OREC	0
86	Part D RAFT Code	D1 *Community, Non-Low Income* *Continuing Enrollee*

Part D RAFT Codes (Field 86)

Part D RA Factor	Description	Part D RA Factor	Description
D1	Community Non-Low Income Continuing Enrollee	P1	PACE New Enrollee Community Low Income Non-ESRD
D2	Community Low Income Continuing Enrollee	P2	PACE New Enrollee Community Non-Low Income Non-ESRD
D3	Institutional Continuing Enrollee	P3	PACE New Enrollee Institutional Non-ESRD
D4	New Enrollee Community Non-Low Income Non-ESRD	P4	PACE New Enrollee Institutional ESRD
D5	New Enrollee Community Non-Low Income ESRD	P5	PACE New Enrollee Community Low Income ESRD
D6	New Enrollee Community Low Income Non-ESRD	P6	PACE New Enrollee Community Non-Low Income ESRD
D7	New Enrollee Community Low Income ESRD	P7	PACE Community Non-Low Income CONTINUING Enrollee
D8	New Enrollee Institutional Non-ESRD	P8	PACE Community Low Income Continuing Enrollee
D9	New Enrollee Institutional ESRD	P9	PACE Institutional Continuing Enrollee

Ms. Sunny Scenario #3 RxHCCs and Part D Model

```
1RUN DATE: 20190613          RISK ADJUSTMENT MODEL OUTPUT REPORT                    PAGE:   1
PAYMENT MONTH: 201907          PLAN: X9999 SAMPLE REPORT                              RAPMODAA
0            LAST            FIRST                              DATE OF
 HIC         NAME            NAME              I                BIRTH   SEX & AGE GROUP
------------ ------------------------------- --------------------------------    ----------- - -------- ---------------

 999912345B  SUNNY           EXAMPLE             R              19310513 Female80-84
 RXHCC DISEASE GROUPS:    RXHCC019 Breast and Other Cancers and Tumors
                          RXHCC067 Inflammatory Bowel Disease
```

*This MOR excerpt was created for this example and does not refer to an actual beneficiary

RxHCCs from MOR:	19, 67
Payment Year:	2019
Risk Adjustment Model:	2018 RxHCC Model

Ms. Sunny Scenario #3 Part D Model Factors

Normalization Factor:	1.019

Ms. Sunny Scenario #3 Part D Demographic Factors

	Status	Factors 2018 RxHCC Model – RAPS	Factors 2018 RxHCC Model – ED
Age/Sex Factor:		0.205	0.205
OREC Factor:	0	0	0
LTI:	<space>	—	—
Low-Income:	N	—	—
Sum of Demographic Relatives:		**0.205**	**0.205**

Ms. Sunny Scenario #3 RxHCCs

	RxHCCs	Factors 2018 RxHCC Model – RAPS	Factors 2018 RxHCC Model – ED
Disease HCCs:	19	0.096	0.096
	67	0.527	0.527
Sum of Disease Relatives:		**0.623**	**0.623**

Ms. Sunny Scenario #3 Part D Calculations – 2019 Blended Risk Score (Slide 1 of 3)

Portion of risk score based on RAPS & FFS data using the 2018 RxHCC Model: 75%
[(raw risk score from RAPS + FFS diagnoses) / (PY 2019 normalization factor for 2018 RxHCC model)] X 75% = portion of the risk score from RAPS & FFS data.

Raw Risk Score =	0.205	+	0.623	=	0.828
Normalized Score =	0.828	/	1.019	=	0.81256
Rounded Risk Score =	0.813				
75% Portion of Risk Score =	0.813	*	0.75	=	0.610

Ms. Sunny Scenario #3 Part D Calculations – 2019 Blended Risk Score (Slide 2 of 3)

<u>Portion of risk score based on ED & FFS data using the 2018 RxHCC Model: 25%</u>
[(raw risk score from ED + RAPS inpatient + FFS diagnoses) / (PY 2019 normalization factor for 2018 RxHCC model)] X 25% = portion of the risk score from ED & FFS data.

Raw Risk Score =	0.205	+	0.623	=	0.828
Normalized Score =	0.828	/	1.019	=	0.81256
Rounded Risk Score =	0.813				
25% Portion of Risk Score =	0.813	*	0.25	=	0.203

Ms. Sunny Scenario #3 Part D Calculations – 2019 Blended Risk Score (Slide 3 of 3)

2018 RxHCC model (RAPS & FFS) portion of the risk score	0.610
2018 RxHCC model (ED, RAPS inpatient, and FFS) portion of the risk score	0.203
Blended Risk Score	= 0.813

SCENARIO #4

Mr. Cloud Scenario #4 Demographic/Model Indicators

- Example of beneficiary enrolled in a PACE organization

MMR Field #	Demographic/Model Indicator	Value
7	Gender	M
20	Part C LTI	<SPACE>
21	Medicaid	1
23	Default Factor Code	<SPACE>
40	Age	80-84
46	RAFT Code	C
47	Frailty Indicator	Y
48	OREC	0

Mr. Cloud Scenario #4 HCCs and Model

```
1RUN DATE: 20190610          RISK ADJUSTMENT MODEL OUTPUT REPORT                          PAGE:    1
 PAYMENT MONTH: 201907           PLAN: H9999 SAMPLE MOR Report                              RAPMORP1
0                LAST      FIRST                                      DATE OF
 HIC            NAME       NAME      I                              BIRTH    SEX & AGE GROUP  ESRD
 ----------- --------------- --------------- ---------- -           -------- ---------------------------- ----
 999999999A   Cloud      Blue                                      1935819 Male80-84            N
 V21  HCC DISEASE  GROUPS: HCC019 Diabetes without Complication
                           HCC035 Inflammatory Bowel Disease
                           HCC040 Rheumatoid Arthritis and Inflammatory Connective Tissue Disease
                           HCC111 Chronic Obstructive Pulmonary Disease
```

*This MOR excerpt was created for this example and does not refer to an actual beneficiary

HCCs from MOR:	19, 35, 40, 111
Payment Year:	2019
Risk Adjustment Model:	2012 CMS-HCC PACE Model

Mr. Cloud Scenario #4 Model Factors

	CMS-HCC PACE Model*
Normalization Factor:	1.159
Coding Intensity Factor:	0.059
Frailty Score Factor**:	0.160

*2019 Payment Notice Normalization and Coding Intensity Factors for CMS-HCC PACE Model
**The beneficiary had a "Y" for the Frailty Indicator; therefore, the Frailty Score Factor will be added to the risk score calculation. This is an example frailty score.

Mr. Cloud Scenario #4 Demographic Factors

	Status	Factors
		2012 CMS-HCC PACE Model
Age/Sex Factor:	M 80-84	0.565
OREC Factor:	0	0
Medicaid Factor:	1	0.210
Sum of Demographic Relatives:		**0.775**

Mr. Cloud Scenario #4 HCCs

	HCCs	Factors
		2012 CMS-HCC PACE Model
Disease HCCs:	19	0.124
	35	0.279
	40	0.376
	111	0.388
Sum of Disease Relatives:		**1.167**

Mr. Cloud Scenario #4 – Calculations

Risk score based on data using the 2012 CMS-HCC PACE model:

[(raw risk score)/ (PY 2019 normalization factor for PACE model)] X (1 – PY 2019 coding adjustment factor) + Frailty Score Factor = risk score.

Raw Risk Score =	0.775	+	1.167	=	1.942
Normalized Score =	1.942	/	1.159	=	1.67558
Round =	1.676				
Coding Intensity =	1.676	*	(1-0.0590)	=	1.57712
Frailty Score Factor =	1.577	+	0.160	=	1.737
Round =	1.737				

SCENARIO #5

Mr. Wheel Scenario #5 Demographic/Model Indicators

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

Mr. Wheel Scenario #5 HCCs and Model

```
1RUN DATE: 20180510              RISK ADJUSTMENT MODEL OUTPUT REPORT                    PAGE:    1
PAYMENT MONTH: 201806            PLAN: H9999 SAMPLE MOR Report                          RAPMORP1
0               LAST        FIRST                              DATE OF
HIC             NAME        NAME        I                      BIRTH    SEX & AGE GROUP  ESRD
------------ --------------- --------------- --------- -         ------- ----------------------------  ----


999678912A    WHEEL        EXAMPLE        F                     19371027 Male80-84          N
V22 HCC DISEASE  GROUPS: HCC06 Opportunistic Infections
                         HCC033 Intestinal Obstruction/Perforation
```

*This MOR excerpt was created for this example and does not refer to an actual beneficiary

HCCs from MOR:	6, 33
Payment Year:	2018
Risk Adjustment Model:	2017 CMS-HCC Model

Mr. Wheel Scenario #5 Model Factors

	2017 CMS-HCC Model*
Normalization Factor:	1.017
Coding Intensity Factor:	0.0591
Frailty Factor:	0

*2018 Payment Notice Normalization and Coding Intensity Factors for 2017 CMS-HCC Model

Mr. Wheel Scenario #5 Demographic Factors

	Status	Factors 2017 CMS-HCC Model – RAPS	Factors 2017 CMS-HCC Model – ED
Age/Sex Factor:	M 80-84	0.561	0.561
OREC Factor:	0	0	0
Medicaid Factor (LTI):	0	0	0
Medicaid Dual Status:	0	—	—
Sum of Demographic Relatives:		**0.561**	**0.561**

Mr. Wheel Scenario #5 HCCs

	HCCs	Factors 2017 CMS-HCC Model – RAPS	Factors 2017 CMS-HCC Model – ED
Disease HCCs:	6	0.435	0.435
	33	0.246	0.246
Sum of Disease Relatives:		**0.681**	**0.681**

Mr. Wheel Scenario #5 – Calculations – Blended 2018 Risk Score (Slide 1 of 3)

Portion of risk score based on ED & FFS data: 15%

[(raw risk score from ED + FFS diagnoses) / (PY 2018 normalization factor)] X
(1 – PY 2018 coding adjustment factor) X 15% = portion of the risk score from ED & FFS.

Raw Risk Score =	0.561	+	0.681	=	1.242
Normalized Score =	1.242	/	1.017	=	1.22124
Round =	1.221			
Coding Intensity =	1.221	*	(1-0.0591)	=	1.14884
Round =	1.149			
15% Portion of Risk Score =	1.149	*	0.15	=	0.172

Mr. Wheel Scenario #5 – Calculations – Blended 2018 Risk Score (Slide 2 of 3)

Portion of risk score based on RAPS & FFS data: 85%

[(raw risk score from RAPS + FFS diagnoses) / (PY 2018 normalization factor)] X (1 – PY 2018 coding adjustment factor) X 85% = portion of the risk score from RAPS & FFS.

Raw Risk Score =	0.561	+	0.681	= 1.242
Normalized Score =	1.242	/	1.017	= 1.22124
Round =	1.221			
Coding Intensity =	1.221	*	(1-0.0591)	= 1.14884
Round =	1.149			
85% Portion of Risk Score =	1.149	*	0.85	= 0.977

Mr. Wheel Scenario #5 – Calculations – Blended 2018 Risk Score (Slide 3 of 3)

2017 CMS-HCC model (ED & FFS) 15% portion of the risk score		0.172
2017 CMS-HCC model (RAPS & FFS) 85% portion of the risk score	+	0.977
Blended Risk Score	=	**1.149**

Summary

- Described the sources and flow of risk adjustment data
- Identified demographic and HCC information available on reports
- Calculated risk scores

Opportunities to Ask Questions?

- During the Breakout Sessions
- During the Open Q&A
- By email at <ins>riskadjustment@cms.hhs.gov</ins>