



June 20, 2019

2019 Southeastern Actuaries Conference

Medicare Advantage Risk Scores and Their Direct Impact to Revenue

Drew McStanley, FSA, MAAA Senior Consulting Actuary Wakely Consulting Group

Presenter Bio

Drew McStanley, FSA, MAAA

- Joined Wakely in 2011
- Expertise
 - Medicare Advantage
 - Part D
 - Risk Adjustment
- 12+ Years of Experience



Outline

- What is a risk score?
- Timeline
- Data sources
- Examples
 - Risk score calculation
 - Application
 - Reporting
- Framing the bid cycle
- Revenue management
- Importance of member retention



What Is a Risk Score?



Diagnoses Collected from Professional, IP and OP claims

HCCs Hierarchical Condition Categories

Risk Score HCCs, demographics, interactions

Revenue

Adjusted in relation to health of members



Types of CMS Risk Score Models

- MA 16+ models
 - New Enrollee
 - Demographic-only risk scores for members without a full 12 months diagnoses in the collection period.
 - Currently 8 models varying by:
 - Dual (Medicaid) vs. non-dual
 - Originally disabled vs. non-originally disabled
 - Chronic-SNP vs. non-CSNP
 - Community currently 6 models varying by:
 - Aged vs. disabled
 - Dual status: non-dual, full dual, partial dual
 - Institutional (continuing enrollee)
 - ESRD (various models)
- Part D Currently 9 models varying by:
 - New enrollee vs. continuing enrollee
 - Low-income (LI) vs. non-LI vs. institutional
 - ESRD vs. non-ESRD (new enrollee model distinction only)



Data Submission Timeline



Payment	RAPS/EDS Blend	Dates of Service	Submission Deadline	Month Reflected in MMR	= Initial = Mid-YearSweep
Payment Ye	ar 2019			I	= Final Sweep
Initial	75/25	7/1/17 – 6/30/18	Early Sep '18	January '19	
Mid-Year	75/25	1/1/18 – 12/31/18	Early Mar '19	August '19	
Final	75/25	1/1/18 – 12/31/18	Jan 31, 2020	July '20	
Payment Ye	ar 2020				
Initial	50/50	7/1/18 – 6/30/19	Early Sep '19	January '20	
Mid-Year	50/50	1/1/19 – 12/31/19	Early Mar '20	August '20	
Final	50/50	1/1/19 – 12/31/19	Jan 31, 2021	July '21	





Data Sources RAPS

Since 2007, RAPS files have been used for risk adjustment methodology.

RAPS files are flat files with a few basic data elements:

- HIC Number
- Provider Type
- Date of Service
- Diagnosis Code(s)





Data Sources EDS

Since 2012, MAOs have been required to submit Encounter Data System (EDS) files for all claims.





Filtering Logic Fundamental methodological differences for filtering RAPS and EDS diagnoses



For RAPS, MAO plans apply filtering logic based on CMS guidance which may lead differences in implementation. Plans only submit diagnoses which they determine are risk adjustment eligible.

For EDS, plans submit all claim records to CMS. CMS applies filtering logic to determine which diagnoses are risk adjustment eligible.



Data Sources Transition to EDS





Page 10

"Simplified" Risk Score Example

Member	scored according to the Continuing En	Relative	Formula	
Demograp	hics		value	
Gender,	Age	Female, 75	0.448	Α
Disabled	Status	Not Disabled	0.000	В
Original	Reason for Entitlement	Originally insured due to age	0.000	С
Total De	mographic Component		0.448	D = A + B + C
Diagnosis	Codes Associated with Member			
C33	Malignant Neoplasm of Trachea	HCC9	0.970	E
C75.1	Malignant Neoplasm of Pituitary Gland	HCC10 (trumped by HCC 9)	0.000	F
D84.9	Immunodeficiency, Unspecified	HCC47	0.625	G
E20.9	Hypoparathyroidism, Unspecified	HCC23	0.228	Н
G30.9	Alzheimer's Disease, Unspecified	Not associated with an HCC	N/A	1
M41.9	Scoliosis, Unspecified	Not associated with an HCC	N/A	J
Total Dia	agnostic Component		1.823	K = E + F + G + H + I + J
Interaction	ns			
Cancer +	- Immune Disorders	Cancer (8-12), Immune (47)	0.893	L
Total Int	eraction Component		0.893	M = L
Total Raw	Risk Score		3.164	N = D + K + M
Adjustme	nts			
FFS Norr	malization		1.075	0
Coding P	Pattern Adjustment		0.941	Р
Final Risk	Score		2.770	Q = N / O * P



Page 11

Pra	ctical Risk Sco	re Example	Same as before		
Member	scored according to the Continuing Enro	RAPS-Based	EDS-Based	Formula	
Demogra	phics	Value	Value		
Gender	Age	Female, 75	0.448	0.451	A
Disable	d Status	Not Disabled	0.000	0.000	В
Original	Reason for Entitlement	Originally insured due to age	0.000	0.000	С
Total De	emographic Component		0.448	0.451	D = A + B + C
Diagnosis	Codes Associated with Member				
C33	Malignant Neoplasm of Trachea	HCC9 (not submitted in EDS)	0.970	0.000	E
C75.1	Malignant Neoplasm of Pituitary Gland	HCC10 (trumped by HCC 9)	0.000	0.675	F
D84.9	Immunodeficiency, Unspecified	HCC47	0.625	0.665	G
E20.9	Hypoparathyroidism, Unspecified	HCC23	0.228	0.194	Н
G30.9	Alzheimer's Disease, Unspecified	HCC52 (no HCC in RAPS model)	N/A	0.346	1
M41.9	Scoliosis, Unspecified	Not associated with an HCC	N/A	0.000	J
Total Di	agnostic Component		1.823	1.880	K = E + F + G + H + I + J
Interactio	ons				
Cancer -	+ Immune Disorders	Cancer (8-12), Immune (47)	0.893	0.838	L
Total In	teraction Component		0.893	0.838	M = L
Alternativ	ve Payment Count	4 HCCs	N/A	0.006	Ν
Total Raw	v Risk Score		3.164	3.175	O = D + K + M + N
Adjustme	nts				
FFS Nor	malization	1.075	1.069	Р	
Coding	Pattern Adjustment	0.941	0.941	Q	
Pre-Bler	nded Risk Score	2.770	2.795	R = O / P * Q	
Weighting	7		50%	50%	S
Weighte	ed Components		1.385	1.397	T = R * S
Final Risk	Score	2.7	782	U = T1 + T2	

Pra	ctical Risk Sco	re Example	Same as before		
Member	scored according to the Continuing Enro	RAPS-Based	EDS-Based	Formula	
Demogra	phics	Value	Value		
Gender,	, Age	Female, 75	0.448	0.451	Α
Disabled	d Status	Not Disabled	0.000	0.000	В
Original	Reason for Entitlement	Originally insured due to age	0.000	0.000	C
Total De	emographic Component		0.448	0.451	D = A + B + C
Diagnosis	Codes Associated with Member				
C33	Malignant Neoplasm of Trachea	HCC9 (not submitted in EDS)	0.970	0.000	E
C75.1	Malignant Neoplasm of Pituitary Gland	HCC10 (trumped by HCC 9)	0.000	0.675	F
D84.9	Immunodeficiency, Unspecified	HCC47	0.625	0.665	G
E20.9	Hypoparathyroidism, Unspecified	HCC23	0.228	0.194	Н
G30.9	Alzheimer's Disease, Unspecified	HCC52 (no HCC in RAPS model)	N/A	0.346	1
M41.9	Scoliosis, Unspecified	Not associated with an HCC	N/A	0.000	J
Total Di	iagnostic Component		1.823	1.880	K = E + F + G + H + I + J
Interactio	ons				
Cancer -	+ Immune Disorders	Cancer (8-12), Immune (47)	0.893	0.838	L
Total In	teraction Component		0.893	0.838	M = L
Alternativ	ve Payment Count	4 HCCs	N/A	0.006	Ν
Total Raw	v Risk Score		3.164	3.175	O = D + K + M + N
Adjustme	ints				
FFS Nor	malization	E	1.075	1.069	Р
Coding	Pattern Adjustment	EDS E	0.941	0.941	Q
Pre-Bler	nded Risk Score A S	& error	2.770	2.795	R = O / P * Q
Weighting	g \ P \	checking S /	50%	50%	S
Weighte	ed Components		1.385	1.397	T = R * S
Final Risk	Score		2.7	/82	U = T1 + T2

Our risk score is 1.5!!! Isn't that great?



Questions to ask...

- Is this a mature plan?
- Is this a Special Needs Plan?
- Is this a raw risk score or has it been adjusted for FFS normalization and coding pattern?
- What basis is it on?
 - Before/after mid-year and/or final sweep?
- Is it RAPS-based, EDSbased, or a blend?
- How do the claims relate to this risk score?



Estimating Risk Adjustment Accruals

	Payment Year 2019 MA (Excluding ESRD & Hospice)												
	Jan-Sep Estimates with Currently					Calendar Year Projections							
	Jan-Sep P	ACTUAIS IN		Known	n Submissio	n Run-Out		Risk	Score	Risk R	evenue	Revenue Accrual	
Plan	Member Months	Risk Score	Risk Revenue	Risk Score	Risk Revenue	Revenue Accrual	Member Months	Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate
Plan 1	66,408	1.189	\$733.52	1.209	\$746.05	\$832,579	87,377	1.202	1.213	\$741.50	\$748.04	\$1,508,677	\$2,245,258
Plan 2	83,282	1.023	\$662.11	1.038	\$671.76	\$804,211	109,168	1.032	1.042	\$668.08	\$674.29	\$1,451,814	\$2,160,633
Plan 3	2,301	0.899	\$601.75	0.905	\$605.82	\$9,374	3,014	0.902	0.912	\$603.93	\$610.25	\$16,908	\$25,163
Plan 4	48,562	1.009	\$645.88	1.022	\$654.43	\$415,375	63,852	1.016	1.026	\$650.49	\$656.79	\$752,162	\$1,119,390
Plan 5	3,928	0.947	\$585.08	0.948	\$585.82	\$2,915	5,125	0.951	0.967	\$587.47	\$597.58	\$5,238	\$7,796
Total	204,481	1.071	\$679.28	1.087	\$689.38	\$2,064,454	268,536	1.081	1.091	\$685.53	\$691.94	\$3,734,800	\$5,558,241

- Necessary given the nature of CMS' prospective risk score model with retroactive "sweep" payments to put risk revenue on a "final" basis
- Considerations:
 - Groupings of members model type (CE vs. NE), # of months the member was enrolled the prior year
 - Monthly submission patterns & expected volume of future submissions
 - Risk score seasonality
 - Impact of members transitioning from New Enrollee to Continuing Enrollee
 - Variance by provider group



Use of Risk Scores in MA Bids

Premium Development Component		Notes
Standardized A/B Benchmark	(a)	Weighted average of county enrollment and county rates
Quality Bonus Payment	(b)	4.0 Star Plans Receive a 5% Bonus
Projected Risk Score	(c)	
Plan A/B Benchmark	(d) = (a)*(b)* <mark>(c)</mark>	
Projected FFS Claim Costs	(e)	Only portion that reflects Medicare FFS benefits
Projected FFS Administrative Costs	(f)	Allocated administrative expenses to FFS benefits
FFS Margin	(g)	Allocated margin to FFS benefits
Plan A/B Bid (Medicare FFS Costs)	(h) = (e)+(f)+(g)	Total Medicare FFS "equivalent" costs
Savings	(i)=(d)-(h)	
Rebate Percent	(j)	Based on Star Rating - 70% for 4.5 Star Plans
Rebates	(k)=(i)*(j)	
Rebate Buy-Down Options		
Enhanced Part C Benefits	(1)	Includes enhanced cost sharing and supplemental benefits
Part D Member Premium	(m)	Includes basic and supplemental part d premiums
Part B Buy-Down	(n)	
Member Premium	(p) = (l)+(m)+(n)-(k)	



Framing the Bid Cycle

What <u>do</u> we know about our risk scores and population at the time bids are prepared (e.g. for 2020 bids)?

- Base year (2018) risk scores
 - CMS will provide bene-level risk scores to plans on a "final" basis in April 2019, which include:
 - Impact of risk score model changes from 2018-2020
 - Separate risk scores by diagnosis source (RAPS vs. EDS)
- Current year (2019) risk scores
 - Early look at your plan's risk scores from emerging MMR
 - On an "initial" basis
 - Lagged diagnosis collection period, less than complete
 - Can signal population changes from 2018-2019
 - Who stayed?
 - Who left?
 - Who joined?



Framing the Bid Cycle

What <u>don't</u> we know about our risk scores and population at the time bids are prepared (e.g. for 2020 bids)?

- How the risk profile / population may change:
 - From now until the end of the current year (2019)
 - From the current year to the bid year (2020)
- Risk score trend impact of aging and coding trend
- For brand new plans:
 - Where your enrollment will come from: FFS, competitor MA plans, own plans
 - What type of members your plan may ultimately attract



Framing the Bid Cycle

Why does it matter what risk score you project?

- Risk scores directly impact your revenue
 - MA benchmarks are adjusted by your projected risk score
 - MA rebate revenue is directly impacted as a result
- Global capitation / risk sharing estimates are driven by revenue (and therefore risk score)
- Risk scores are scrutinized by CMS in desk review and audit
 - Actual-to-expected
 - Reasonableness of assumptions
- Significant misses can cost you



Who Controls a Member's Risk Score

- Providers
- Plan Sponsor
 - Chart reviews and outreach initiatives
 - Sales efforts mix of incoming new (to Medicare) enrollees or members coming from FFS
- Competitor plans and their providers
 - Members that switched plans not with the current plan for the full diagnosis collection period
- Vendors submitting diagnoses data on the plan's behalf
 - Some plans use vendors to prepare EDS data submissions
 - Chart reviews
- CMS
 - Model changes



Risk Scores and the Management Cycle





Ways to Improve Risk Scores

- Home visits
- Health risk assessments
- Dropped and missing diagnoses
- Prioritization of HCCs
- Hire vendor
- Provider risk sharing arrangements
- Provider education
- Improve both sets of data (RAPS, EDS) by finding HCCs that exist in one, but not both sources
- Review of RAPS filtering logic
- Cleaning EDS errors and prioritizing EDS error clean up
- Getting EDS claims passed through CMS filtering logic
- Predictive analytics to create suspect lists





Risk Scores and Member Retention

- Plan has no control over a member's 1st year risk score
- Starting in 1st year, significant efforts can be made to optimize a member's year 2+ risk scores
- Prior year coding efforts for a member are lost if the plan does not retain the member
- Members with optimized risk scores increase your average risk score
 - Since the plan has boosted their risk score in early durations
- Losing members with optimized risk scores to competing plans may hurt your competitive standpoint
 - In bid preparation, higher risk scores (all else equal) increase benchmarks and therefore rebate dollars



Risk Scores and Member Retention

Risk Score Coding Trend by Duration (Excluding Aging)



Risk Scores and Member Retention

Cumulative Risk Score Improvement by Year for an Average Retained Member w/ a 1.0 Starting RS (Excluding Aging)



Original 1.0 Risk Score

Cumulative Risk Score Improvement



Drew McStanley, FSA, MAAA Senior Consulting Actuary Drew.McStanley@wakely.com; 727-259-7466







Page 27

Risk Adjustment Example

- Plan estimates the bid (i.e. required revenue to offer Medicare FFS "equivalent" benefits) and the risk score for future enrolled population
- CMS converts this to a revenue payment at a 1.00 risk score
- Plan is actually paid based on the actual risk score of the enrolled population

Plan A/B Bid Revenue Requirement	800
Plan A/B Risk Score	0.80
Normalized Plan A/B Bid	800 / 0.80 = 1,000
Actual enrolled risk	0.90
Actual Plan A/B Revenue (excl. Rebates)	1,000 * 0.90 = 900

Note: This actually happens on a per individual basis.



Risk Score Use in Estimating Population Changes

• Adjusting for known population changes – stayer/leaver/joiner analysis

		Dec	-18	Jan	-19
		MMs	Risk Score	MMs	Risk Score
А	Stayers	8,500	1.100	8,500	1.115
В	Leavers	1,500	1.150		
С	Joiners			1,000	0.800
D	Total	10,000	1.108	9,500	1.082





How Well Do Risk Scores Predict Costs?

- Risk score models do not predict costs well at the tail (high/low) ends
- Not a good predictor of costs in members' end of life stages:
 - Last year of life
 - Just prior to transitioning to ESRD or Hospice
- Disparity between current year costs and prior year diagnoses (e.g. timing of a cancer diagnosis)



How Well Do Risk Scores Predict Costs?

Predictive Ratios for CMS HCC APCC Model (2020 Release) Community Aged



How Well Do Risk Scores Predict Costs?

Predictive Ratios for CMS HCC APCC Model (2020 Release) Community Disabled



How Are CMS Risk Score Models Developed?

CMS HCC Model Release Year	MS HCC Model Diagnosis Release Year Year		Denominator Year	
2017	2013	2014	2015	
2020	2014	2015	2015	





How Are CMS Risk Score Models Developed?





Ways to Improve Risk Scores Optimizing Risk Scores

- Prioritized list of suspects for improving risk scores
- Look at four different pieces of information in order to determine probability that a member may have a certain medical condition.
 - Demographics
 - Pharmacy data
 - Procedures performed
 - Diagnosis information
 - Co-morbidities
 - Chronic conditions



The Future of Medicare Risk Adjustment

2018-2020 CMS-HCC Model Changes





Pmt Yr 2018-2020 CMS-HCC Model Changes

	PY 2018	PY 2019	PY 2020
HCC Model	2017 model for both RAPS-based risk scores and EDS- based risk scores	 2017 model for RAPS 2019 "no count" model for EDS 	 2017 model for RAPS 2020 "alternative payment condition count" (APCC) model for EDS
RAPS/EDS Blend	85 / 15	75 / 25	50 / 50
Supplement EDS with RAPS Inpatient	No	Yes	Yes
Number of HCCs	79	79 for RAPS83 for EDS	79 for RAPS86 for EDS
Condition Count as a Model Variable	No	No	No for RAPS-basedYes for EDS-based



Future Change Possibilities

What else is possible with the EDS data:

- Possible movement from the FFS basis of risk scores
 - Elimination of the Coding Pattern Adjustment factor in risk scores
 - Allows finer reviews of risk score normalizing
 - Regional?
- Utilization verification use in bid preparation
 - More standardized similar to the use of PDE data



The Future of Medicare Risk Adjustment





Page 39