

# Actuarial Bid Training

## Risk Score Development

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CMS Office of the Actuary

Updated April 2011



# Session Outline

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- Risk data to be provided by CMS
- Risk Score Adjustments
- Preferred Methodology
- Alternate Methodologies
- Example
- Documentation
- Reference



# Risk Data Provided by CMS

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- Plan Level Data
- Beneficiary Level File



# Risk Data Provided by CMS:

## Plan Level Data

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- Separate data for MA and PD
- July cohort from two years prior to the contract year with retro adjustments
  - Enrollment and status
- Contract Year model risk scores
- Technical notes will be released with the data providing details



# Risk Data Provided by CMS: Beneficiary Level File

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- Separate data for MA and PD
- 12 months of retro adjusted enrollment for the calendar year two years prior to the contract year
- 12 months of status information
- Model risk scores provided
  - Both new and old risk scores are provided if the model is recalibrated for the contract year

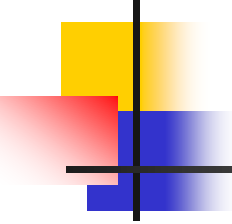


# Risk Score Adjustments:

## Applied to CMS Provided Data

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- Plan-specific coding trend (MA & PD)
- Population changes (MA & PD)
- MA coding pattern adj (MA only)
- Normalization (MA & PD)
- Missing diagnosis adjustment (MA & PD)
- Frailty Factor, if applicable (MA only)



# Risk Score Adjustments:

## Missing Diagnosis Adjustment

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- A missing diagnosis adjustment factor is needed if a risk model is recalibrated using codes that were not required to be reported by plan sponsors
  - Adjustment is not required if the plan sponsor has provided all codes
  - Does not apply to PDPs
- CMS will provide an adjustment factor in the technical notes that accompany the beneficiary level files



# Risk Score Adjustments:

## Plan Specific Coding Trend

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- Represents the change in diagnosis coding of each individual plan
- MA PD plans must base their risk score development on plan specific coding trends
  - FFS coding trend is not appropriate for managed care plans with credible experience
- Measured from the starting point of the base period to the contract year





# Risk Score Adjustments: Population Change

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- Represents changes in the make-up of the population enrolled in the plan



# Risk Score Adjustments:

## MA Coding Pattern Adjustment

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- Reflects the differential in diagnosis coding patterns between MA and Traditional FFS
- If MA coding pattern adj =  $x\%$  , then adjustment to risk score is multiplied by  $(1-x\%)$
- Does not apply to Part D
- Adjustment is provided by CMS in the Advance Notice or the Final Notice



# Risk Score Adjustments: Normalization Factor

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- Brings average risk score back to a 1.0 in years subsequent to the denominator year
  - Different factor for MA and PD
  - Factor is always relative to the denominator year of the risk model
  - Divide projected risk score by normalization factor
  - Normalization factor provided by CMS in the Advance Notice or the Final Notice



# Risk Score Adjustments: Frailty Factor

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- Only applies to PACE organizations and certain fully integrated dual eligible SNPs
- Is additive
- Does not apply to Part D
- Frailty factor provided by CMS in the Advance Notice or the Final Notice



# Preferred Methodology:

## Medicare Advantage

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- Begin with the Risk Score data provided by CMS
  - Plan Level or Beneficiary Level data
- Apply Adjustments
  - Missing diagnosis adjustment
  - Plan specific coding trend
  - Population changes
  - MA coding pattern adjustment
  - Normalization Factor
  - Frailty Factor, if applicable



# Preferred Methodology:

## Part D

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- Begin with the Risk Score data provided by CMS
  - Plan Level or Beneficiary Level data
- Apply Adjustments
  - Missing diagnosis adjustment for MA-PD only
  - Plan specific coding trend
  - Population changes
  - Normalization Factor



# Alternate Methodologies: Adjustment Considerations

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- Converting to raw risk score
- Transition from lagged to non-lagged diagnosis data
- Transition from incomplete to complete diagnosis data
- Seasonality adjustment
- Risk model adjustment



# Example: Assumptions

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- Contract Year PD Missing Diagnosis Adjustment = 1.010
- Plan specific coding trend is 2.0% annually
- Population change = 0.1%
- Contract Year MA Coding Pattern Difference = 3.41%
- Contract Year MA Normalization factor = 1.079
- Contract Year PD Normalization factor = 1.032
- Contract Year Frailty Adjustment Factor = .008



# Example: Template

RISK SCORE PROJECTION		
	MA Preferred	PD Preferred
A Starting Risk Score Provided by CMS	1.0500	1.0400
B Covert to Raw - Remove Normalization (multiply)		
C Covert to Raw - Remove MA Coding Pattern Adj (divide)		
D Transition from Lagged to non-lagged diagnosis data		
E Incomplete reporting of diagnosis data		
F Seasonality		
G Risk Model Adjustment		
H Missing Diagnosis Adjustment	1.0000	1.0100
I Plan Specific coding Trend at 2.0% annually	1.0404	1.0404
J Population change	1.0010	1.0010
K MA Coding pattern differences (1-3.41%)	0.9659	
L Normalization Factor	1.0790	1.0320
M Frailty factor (additive)	0.0080	
Final Risk Score $[(A * B / C * D * E * F * G * H * I * J * K) / L] + M$	0.9869	1.0600

*Note: Blue shaded boxes only need to be considered when using an alternate methodology.  
Purple shaded boxes do not apply to PD*



# Documentation

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- Must clearly show the method used to develop the risk score
- Must support each adjustment factor
- If an alternate method is used:
  - Must state the reason the alternate method was used
  - Must show that the methodology is consistent with the preferred method
- Must not roll multiple adjustments together and call them “trend” or “normalization”



# Reference

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- Advance Notice
- Rate Announcement