

HEALTH WEALTH CAREER

# FY17 LONG TERM CARE RISK ADJUSTMENT

STATE OF NEW YORK  
DEPARTMENT OF HEALTH

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## Presenter

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# FY17 LTC RISK ADJUSTMENT AGENDA

- Highlight changes made in FY17
  - Encounter data
  - Model development
  - Risk Score development
- High cost risk pool update

## ENCOUNTER DATA UPDATES

- Major component of the risk adjustment model development
- Encounters used to calculate PMPM costs for each member

Element	FY16 Risk Adjustment	FY17 Risk Adjustment
Data Source	Direct to Mercer	MEDS
Measurement Period (service dates)	CY 2013	CY 2014
MMIS Edits	No edits were applied	Post MMIS edits
Services Included	LTC costs only	LTC costs only (no change)

Summary of Methods, page 2.

# ENCOUNTER DATA ADJUSTMENTS

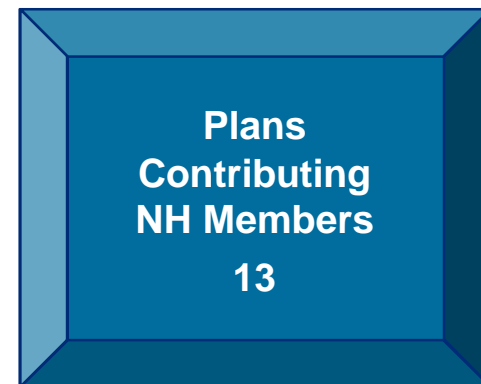
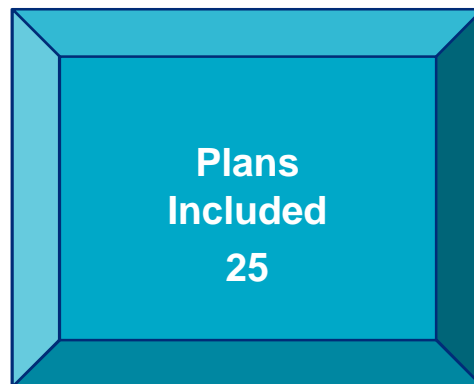
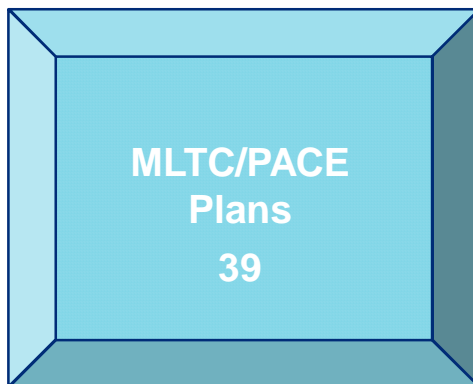
- Repriced claims/lines with missing, zero, or outlier payments.
- Adjustments made to account for reimbursement program changes.

Adjustment	Methodology Update
Shadow Pricing	No change
Wage Parity	Reflected within the CY 2014 cost experience, for most months
Fair Labor Standards Act (FLSA)	New adjustment applied to personal care and home health services

Summary of Methods, pages 2 and 13-14.

# ENCOUNTER DATA VALIDATION

- Compare Encounters (MEDS) to Operating Reports (MLTCOR/PACEOR)
- Inclusion threshold is 0.75 to 1.25
- Select plans based on all LTC costs
- Select plans that can contribute NH members based on NH costs



Summary of Methods, pages 15-17.

## POPULATION USED FOR MODEL DEVELOPMENT

- Removed members from plans outside of acceptable reporting levels.
- Removed members with < 3 months of enrollment in measurement year.

Element	FY16 Risk Adjustment	FY17 Risk Adjustment
Recipients must have an assessment in the period	Jan 2014 – Jun 2014	Jan 2014 – Dec 2014 (six-month update)
Number recipients	92,781	123,799
Mandatory members	Included	Included*
NHT members	Excluded	Excluded

\* Starting in FY17, includes both NYC and ROS mandatory members.

Summary of Methods, pages 2, 5, and 6.

# PREDICTOR SELECTION

- Model uses predictors to estimate LTC PMPM costs.
- Predictors were selected that met the Guiding Principles
  - Objectively and reliability measured
  - Auditable
  - Not easily gamed
  - Clinically relevant
  - Consistently and significantly associated with LTC costs across plans
- UAS workgroup and plan input was used to develop list of possible predictors.
- Statistical-based approach to final predictor selection.



Summary of Methods, pages 2, 5, and 18.

# STATISTICAL APPROACH

## UNIVARIATE TEST

- Analysis to determine if an individual predictor has a significant, positive relationship with LTC costs
- Excluded predictors from this step

Disease Diagnoses	Mood and Behavior	Mood and Behavior	Other
<ul style="list-style-type: none"><li>• Anxiety</li><li>• Bipolar</li><li>• Cancer</li><li>• COPD</li><li>• Coronary heart disease</li><li>• Depression</li><li>• Diabetes</li><li>• Schizophrenia</li></ul>	<ul style="list-style-type: none"><li>• Anxious complaints</li><li>• Crying, tearfulness</li><li>• Inappropriate sexual behavior</li><li>• Made negative statements</li><li>• Persistent anger</li></ul>	<ul style="list-style-type: none"><li>• Reduced social interactions</li><li>• Repetitive health complaints</li><li>• Sad facial expressions</li><li>• Socially inappropriate</li><li>• Unrealistic fears</li><li>• Withdrawal</li></ul>	<ul style="list-style-type: none"><li>• Change in decision making</li><li>• Dyspnea</li><li>• Pain control</li><li>• Dental</li></ul>

Summary of Methods, pages 19-20.

# STATISTICAL APPROACH BOOTSTRAPPING

- Select final predictors that are statistically significant in 200 samples
- Listed predictors were
  - in < 90% of the samples
  - Excluded from model

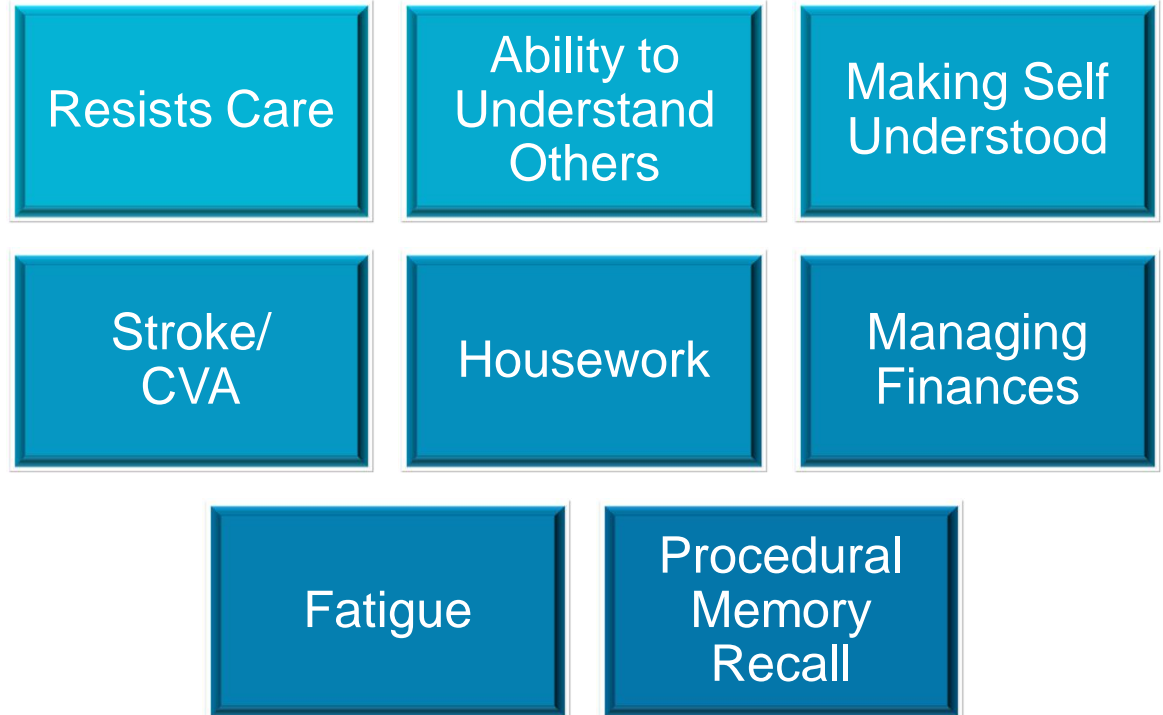


Summary of Methods, pages 24-27.

## STATISTICAL APPROACH

### REGRESSION STEP

- Performed regression analysis to assign a value to each of the final predictors.
- Listed predictors excluded due to
  - Negative coefficients
  - Not-significant



Summary of Methods, pages 28-30.

# STATISTICAL APPROACH

## FINAL UAS PREDICTORS

### Socio-Demographic

- Age 80+
- Female

### Interaction

- Quadriplegia and Bowel Continence
- Alzheimer's or Dementia and Toilet Transfer Level 1

### Functional

- Bed Mobility
- Dressing Combined
- Transfer Toilet
- Bathing
- Walking
- ADL Hierarchy
- Bladder Continence
- Bowel Continence
- Foot Problems
- Meal Preparation
- Managing Medications
- Phone use
- Stairs
- Transportation
- Primary Mode of Locomotion Indoors
- Balance: Difficulty Standing
- Vision

### Disease Conditions

- Neurological: Alzheimer's Disease or Dementia
- Neurological: Plegias (Quadriplegia/Paraplegia/Hemiplegia)
- Neurological: Parkinson's or Multiple Sclerosis
- Congestive Heart Failure

### Behavioral Symptoms/Cognition

- Wandering
- Cognitive Skills for Daily Decision Making

Summary of Methods, pages 29-30.

## NOTABLE PREDICTOR UPDATES

Element	FY16 Risk Adjustment	FY17 Risk Adjustment
Number of individual predictors	24	27
Predictors that only appear in one period	<ul style="list-style-type: none"> <li>• Dressing Upper Body</li> <li>• Toilet Use</li> <li>• Procedural Memory</li> <li>• Stroke/CVA</li> </ul>	<ul style="list-style-type: none"> <li>• Dressing Combined*</li> <li>• Toilet Transfer</li> <li>• Cognitive Skills for Daily Decision Making</li> <li>• Wandering</li> <li>• Transportation IADL</li> <li>• Bathing*</li> </ul>
Interaction Factors	<ul style="list-style-type: none"> <li>• Quadriplegia and Bed Mobility Level 3</li> </ul>	<ul style="list-style-type: none"> <li>• Quadriplegia and Bowel Incontinence</li> <li>• Alzheimer's/Dementia and Toilet Transfer Level 1*</li> </ul>

\* Updated based on plan feedback

Summary of Methods, pages 29-30 and 32-41.

## SCORE/POINTS FOR EACH PREDICTOR

Predictors	FY16	FY17
Female	1	1
Age Group 80+ Years	3	2
Bathing	NEW	2
Bed Mobility – Level 1	2	2
Bed Mobility – Level 2	5	5
Bed Mobility – Level 3	7	9
Dressing Combined– Level 1	2-9*	2
Dressing Combined – Level 2		5
Dressing Combined – Level 3		9
Dressing Combined – Level 4		11
Toilet Transfer – Level 1	2-9*	2
Toilet Transfer – Level 2		6
Walking	2-3*	1
ADL Hierarchy	1	1
Bladder Continence – Level 1	3	3
Bladder Continence – Level 2	4	2
Bowel Continence	3	3
Congestive Heart Failure	1	1
Daily Decision Making	NEW	2
Foot Problems	2	2

Predictors	FY16	FY17
Meal Preparation	5	4
Managing Medications	1	1
Phone Use	1	2
Stairs	2	1
Transportation	NEW	1
Locomotion Indoors – Level 1	2-5*	1
Locomotion Indoors – Level 2		3
Locomotion Indoors – Level 3		5
Alzheimer's Disease or Dementia	6**	3
Hemiplegia	2	2
Paraplegia	5	3
Quadriplegia	18**	26
Parkinson's or Multiple Sclerosis	2	3
Balance: Difficulty Standing	1	1
Vision	3	3
Wandering	NEW	4
Interaction: Quadriplegia and Bowel Incontinence	REVISED	9
Interaction: Alzheimer's/Dementia and Toilet Transfer Level 1	NEW	3

\* Ranges are shown when a direct comparison does not exist.

\*\* Impacted by new/revised interaction factor.

Summary of Methods, pages 32-41.

## CATEGORIZATION OF LONG TERM CARE COST INDEX (LTCCI)

- Score was assigned to each predictor.
- Scores associated with each predictor were summed to calculate the LTCCI score for each recipient.

Element	FY16 Risk Adjustment	FY17 Risk Adjustment
Possible LTCCI Range	0-111	0-116
Observed LTCCI Range	0-106	0-104
Number of LTCCI Groups	56	60
Range of Cost Weights	0.3210 - 2.8127	0.3110 - 2.8941

Summary of Methods, pages 32 and 41-43.

## MODEL PERFORMANCE R-SQUARED STATISTIC

- Measure of model performance, where the estimation error is squared
  - Values range from 0 to 100%
  - Higher values indicate better performance

Metric	FY16 Risk Adjustment	FY17 Risk Adjustment
Individual R-squared	41.53%	42.08%
Group R-squared	99.58%	99.70%

- Group performance measured by
  - Sorting members from highest to lowest LTC PMPM costs
  - Study population was divided into 20 groups (representing 5% of the population)

## MODEL PERFORMANCE

### PREDICTIVE RATIO

- Compares expected cost from the model to actual cost (encounters)
  - Value above 1.00 indicates over prediction
  - Value under 1.00 indicates under prediction

Subpopulation/Condition	Predictive Ratio
Lowest Cost 5% Group	0.84
Highest Cost 5% Group	1.01
All Other Cost Groups	0.97-1.04
NH Assessment Members	0.98
Quadriplegia	1.01
Alzheimer's/Dementia	1.00

## PLAN RISK SCORE DEVELOPMENT

- Members assigned risk score using the most recent assessment
- Members are assigned to a plan, program, and region using the snapshot
- Risk scores are calculated and placed on a relative basis

Element	FY16 Risk Adjustment (Most Recent Phase)	FY17 Risk Adjustment
Assessment Data	Jan 2014 – Dec 2014	Jan 2014 – Dec 2015 (one year update)
Enrollment Snapshot	Jan 2016 for MLTC/FIDA  Jul 2015 for PACE	Mar 2016 (2-8 months)
Rest of State (ROS)	ROS combined	Risk scores split by region (MLTC only)

Summary of Methods, pages 3-4 and 44.

# RISK SCORE ADJUSTMENTS AND APPLICATION

Element	FY16 Risk Adjustment (Most Recent Phase)	FY17 Risk Adjustment
SAAM/UAS Blend	50% / 50%	0% / 100%
FIDA Adjustment	One-time adjustment to remove higher risk adjustment assumed in the rate development.	Not applicable
Mid-Period Updates	Quarterly for MLTC/FIDA  July 2015 PACE update	None planned
Mandatory ROS	Not applied	Applied
NHT Members	Excluded	Excluded

Summary of Methods, pages 3-4.

## AGGREGATE MLTC/FIDA ACUITY FACTORS

- Adjustment is made to account for MLTC/FIDA program risk

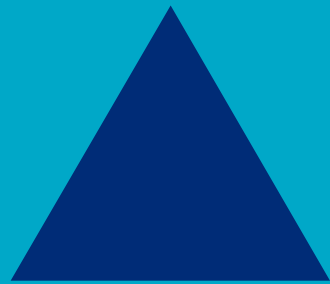
Enrollment Snapshot	FIDA Enrollment	FIDA Member Percentage	Aggregate FIDA Acuity Factor	Aggregate MLTC Acuity Factor
April 2015	3,608	3.0%	1.0881	0.9973
July 2015	6,042	4.8%	1.0861	0.9956
October 2015	8,651	6.8%	1.0712	0.9948
January 2016	6,213	4.8%	1.1059	0.9947
March 2016	5,790	4.4%	1.1309	0.9940

FY17 and FY16 phase risk scores.

# QUESTIONS



# FY17 HIGH COST RISK POOL



# HIGH COST RISK POOL – AN UPDATE



- MLTC only
- Pool amounts vary by region
- Funded from 2% premium withhold
- Goal to select an approach that would:
  - Identify members expected to be high cost
  - Utilize available assessment data
  - Not rely on encounter data
  - Be independent from the risk adjustment process

# TOOL SELECTED FOR POOL DISTRIBUTION BACKGROUND

Resource Utilization Groups (RUGs) developed by InterRAI

Designed to allocate costs based on variable costs of care for individuals

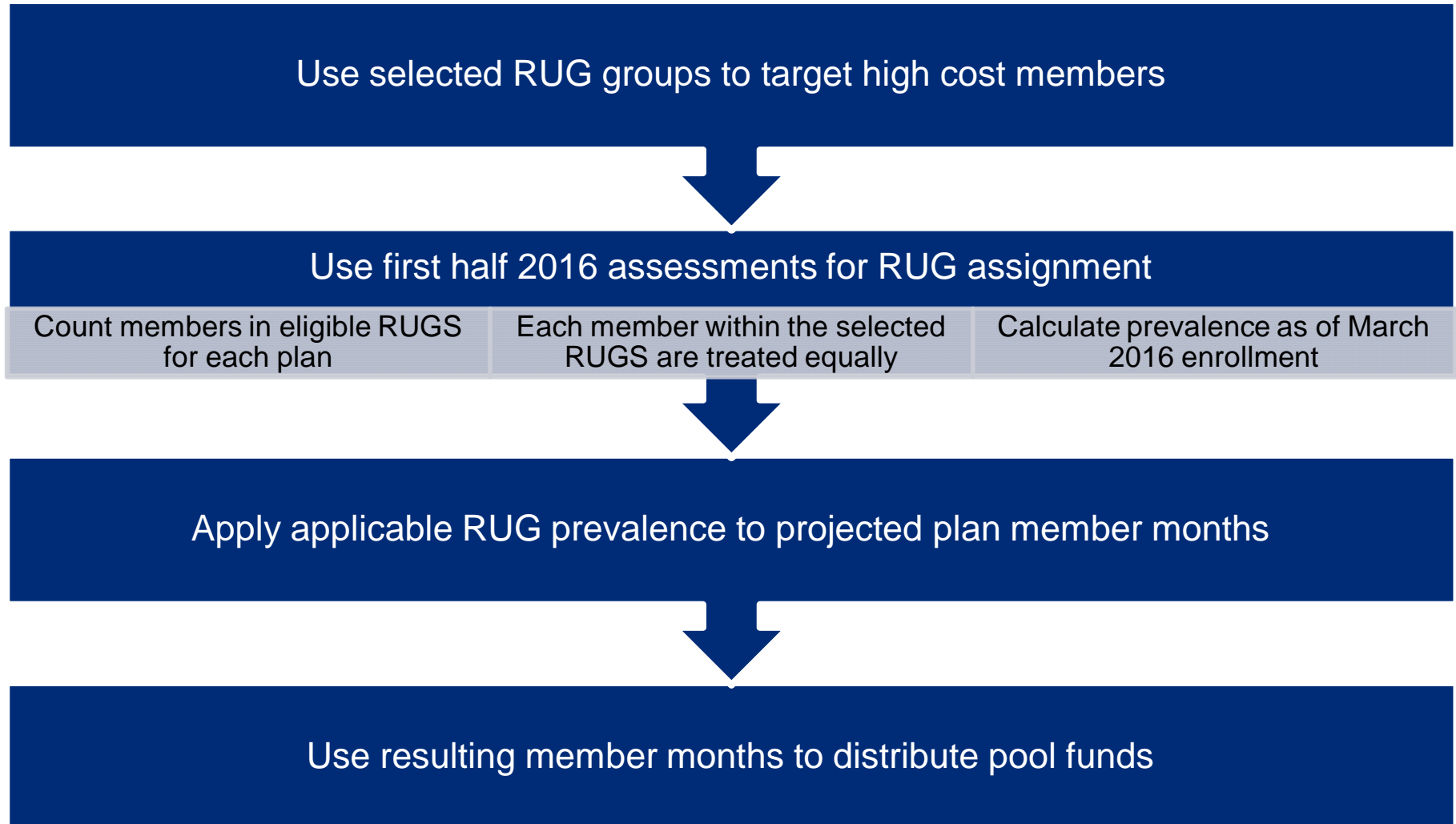
Categories with homogenous use patterns

- Specialty Rehabilitation
- Extensive Services
- Special Care
- Clinically Complex
- Impaired Cognition
- Behavior Problems
- Reduced Physical Functions

Independently validated in multiple markets

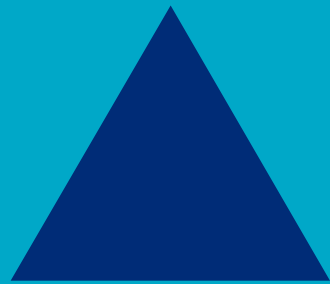
RUG assignment is present on signed/submitted assessments to the State

# POOL DISTRIBUTION DETAILS



# APPENDICES

## SUPPORT INFORMATION



# FY17 LTC RISK ADJUSTMENT

## SUMMARY OF STEPS

Identify LTC enrollees, services, and costs

Shadow price and adjust cost data

Validate cost data

Risk adjustment model development

Calculate LTC cost index (LTCCI) scores

LTCCI groupings

Cost weight development

Risk score calculations

Application of final risk scores to base rates

# FY17 LTC RISK ADJUSTMENT

## DATA SOURCE USED FOR RISK ASSESSMENT

### Enrollment/Eligibility

- Identify eligible recipients
- Member month calculations
- Health plan assignments
- Socio-demographics

### Operating Reports: MLTCOR and PACEOR

- Medicaid reported costs
- Evaluate sufficiency and completeness of encounter data
- Support reimbursement changes

### MEDS\* Encounter Data

- Identification of LTC services
- Costs of covered LTC services

### UAS Assessment Data

- Regression model predictors
- Development of long term care cost index (LTCCI)

\*Change from the FY16 risk adjustment methodology.

## INCLUDED ENCOUNTER SERVICES AND COSTS(UNCHANGED)

- Home health care
- Personal care
- Nursing facility care
- Other MLTC services
- Adult day health care
- Audiology
- Dental
- Durable medical equipment
- Home delivered and congregate meals
- Outpatient physical rehab/therapy
- Personal emergency response services
- Podiatry
- Social day care
- Transportation
- Vision care (including eyeglasses)



Summary of Methods, pages 11-12.

## EXCLUDED SERVICES FOR COST WEIGHT DEVELOPMENT FOR PACE ONLY (UNCHANGED)

- Home Inpatient
- Primary care
- Specialty care
- Diagnostic, testing, lab, and x-ray
- Emergency room visits
- Ambulatory surgery
- Outpatient mental health



Summary of Methods, pages 11-12.

# ENCOUNTER DATA VALIDATION

## MLTC PLANS IN MODEL DEVELOPMENT

- Breakdown for MLTC Plans by region

Region	MLTC Plans	Plans Included	Plans Contributing NH Members
NYC Area	24	21	11
Mid-Hudson/Northern Metro	11	8	4
Northeast/Western	10	7	2
Upstate	6	4	1
Statewide	31	23	12

\* For MLTC plans that operate in multiple regions, these plans will be included separately for each region, but are only included once within the Statewide line.

Summary of Methods, pages 15-17.

# ENCOUNTER DATA VALIDATION

## PACE PLANS IN MODEL DEVELOPMENT

- Breakdown for PACE Plans by region

Region	PACE Plans	Plans Included	Plans Contributing NH Members
NYC Area	2	1	0
Rest of State (ROS)	6	1	1
Statewide	8	2	1

Summary of Methods, pages 15-17.

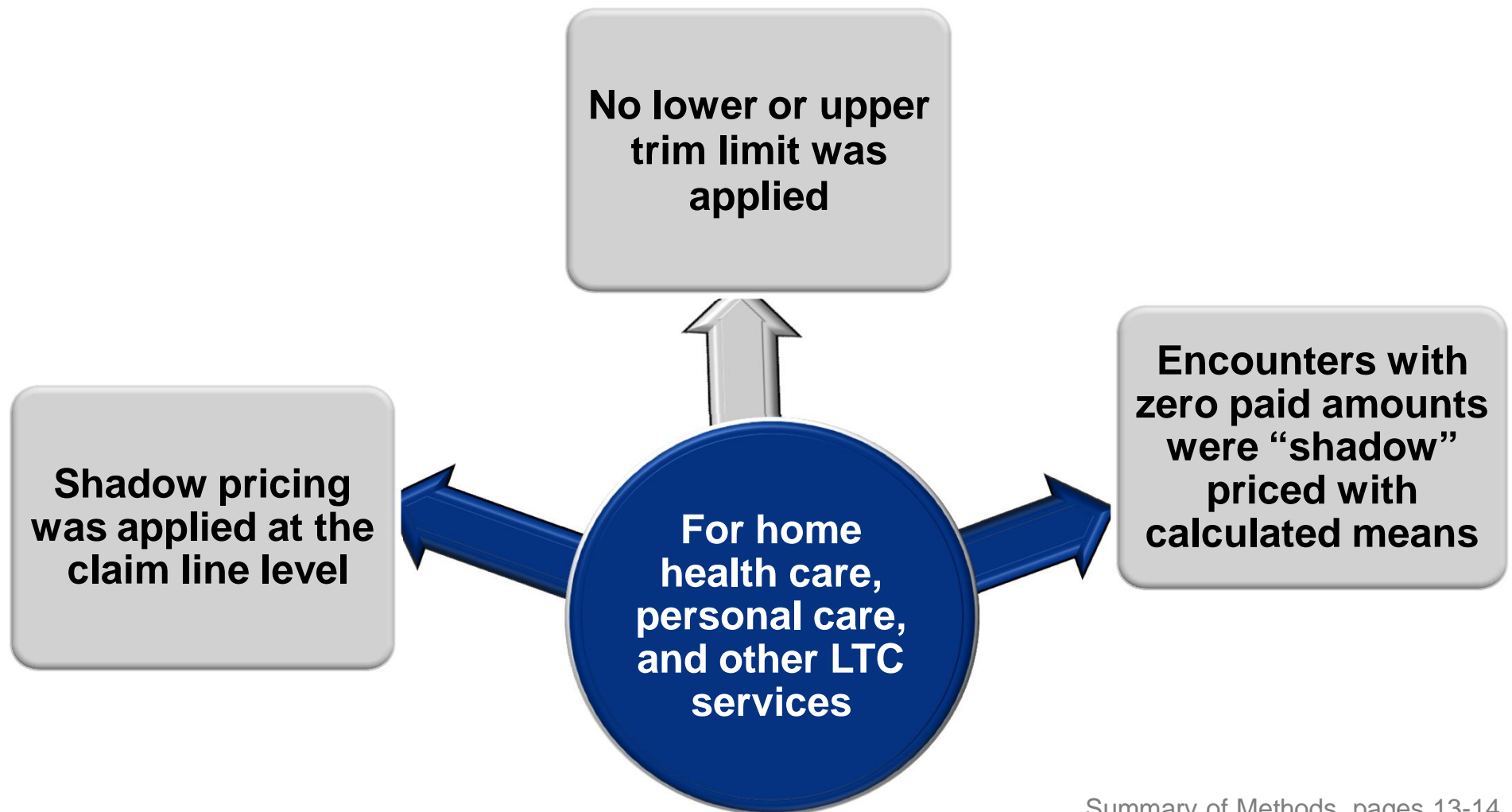
## COST DATA ADJUSTMENTS

- Applied fee mean derived to impute costs for service claim lines where the submitted amount was missing, zero, or an outlier
- Shadow pricing methods employed varied by the categories of LTC services:
  - Nursing home
  - Home health care/personal care/other LTC
- Adjustments were made to NYC Area costs to account for the FLSA

Summary of Methods, pages 13-14.

## **COST DATA ADJUSTMENTS**

### **HOME HEALTH CARE/PERSONAL CARE/OTHER LTC SHADOW PRICING**



Summary of Methods, pages 13-14.

# **COST DATA ADJUSTMENTS**

## **NURSING HOME SHADOW PRICING**

- Updates were made to the trim points and applied fee mean

<b>Element</b>	<b>FY16 Risk Adjustment</b>	<b>FY17 Risk Adjustment</b>
Lower Trim – NYC Area	\$200	\$145
Lower Trim – ROS	\$150	\$110
Upper Trim	\$760	\$775
Applied fee mean	\$274.21	\$251.28

Summary of Methods, pages 13-14.

# FINAL UAS PREDICTORS

## ADL HIERARCHY

- An InterRAI-developed scale comprised of the following ADLs
  - Personal Hygiene
  - Toilet Use
  - Locomotion
  - Eating

Score	Status
0	Independent (in all four ADLs)
1	At least supervision in one ADL (and less than limited in all four)
2	Limited assistance in 1+ of the four ADLs (and less than extensive in all four)
3	At least extensive assistance in Personal Hygiene or Toilet Use (and less than extensive in both Eating and Locomotion)
4	Extensive assistance in Eating and Locomotion (total dependence in neither of the two)
5	Total dependence in Eating and/or Locomotion
6	Total dependence in all four ADLs

Summary of Methods, page 18-19.

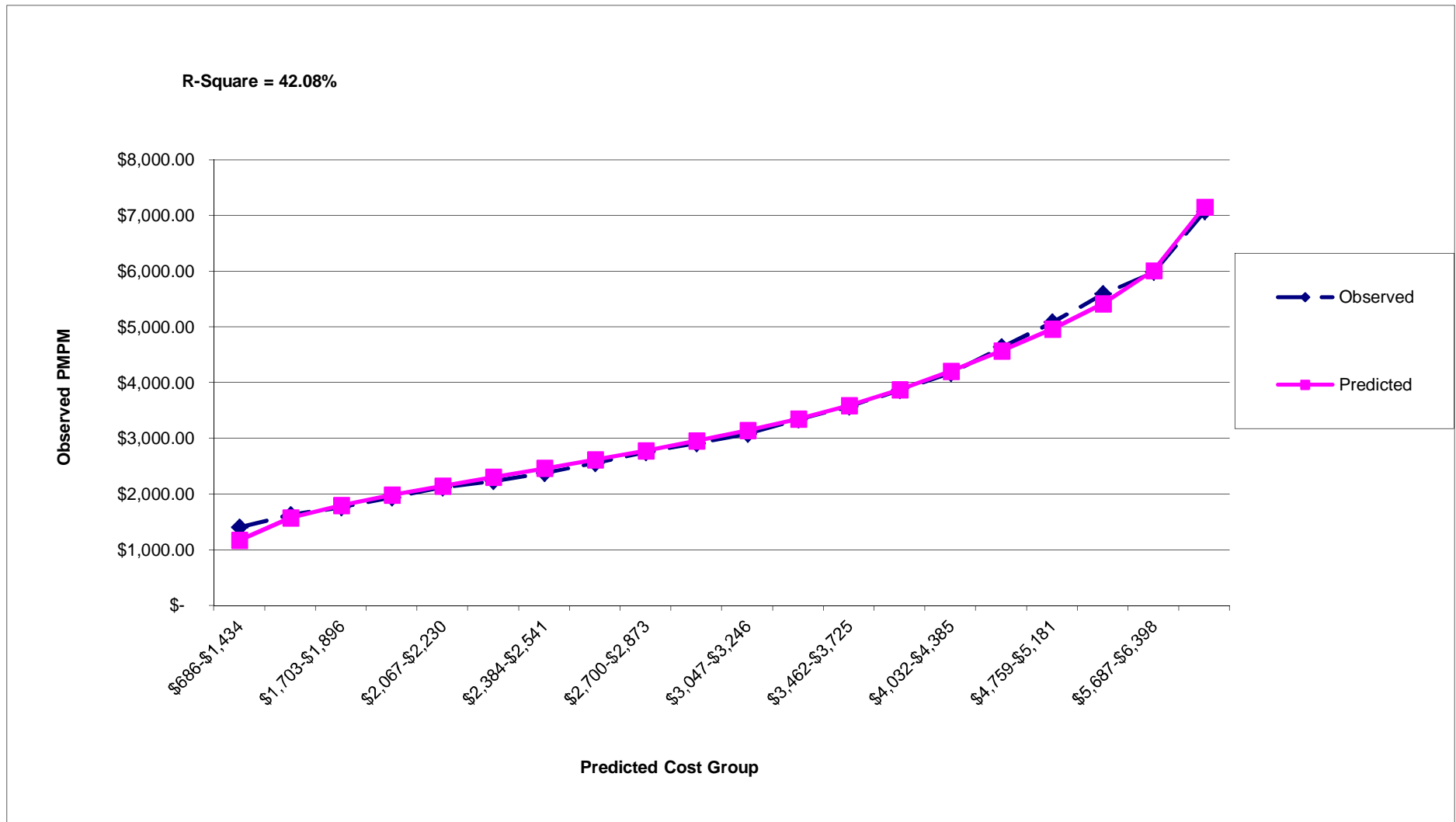
## FINAL UAS PREDICTORS DRESSING COMBINED

- Combines the following predictors:
  - Dressing Lower Body (DLB)
  - Dressing Upper Body (DUB)

Dressing Combined Level	Score	Status
Level 1	2	DLB Level 1 and DUB Level 1-2
Level 2	5	DLB Level 2 and DUB Level 1
Level 3	9	DLB Level 2 and DUB Level 2
Level 4	11	DUB Level 3 Or DLB Level 3

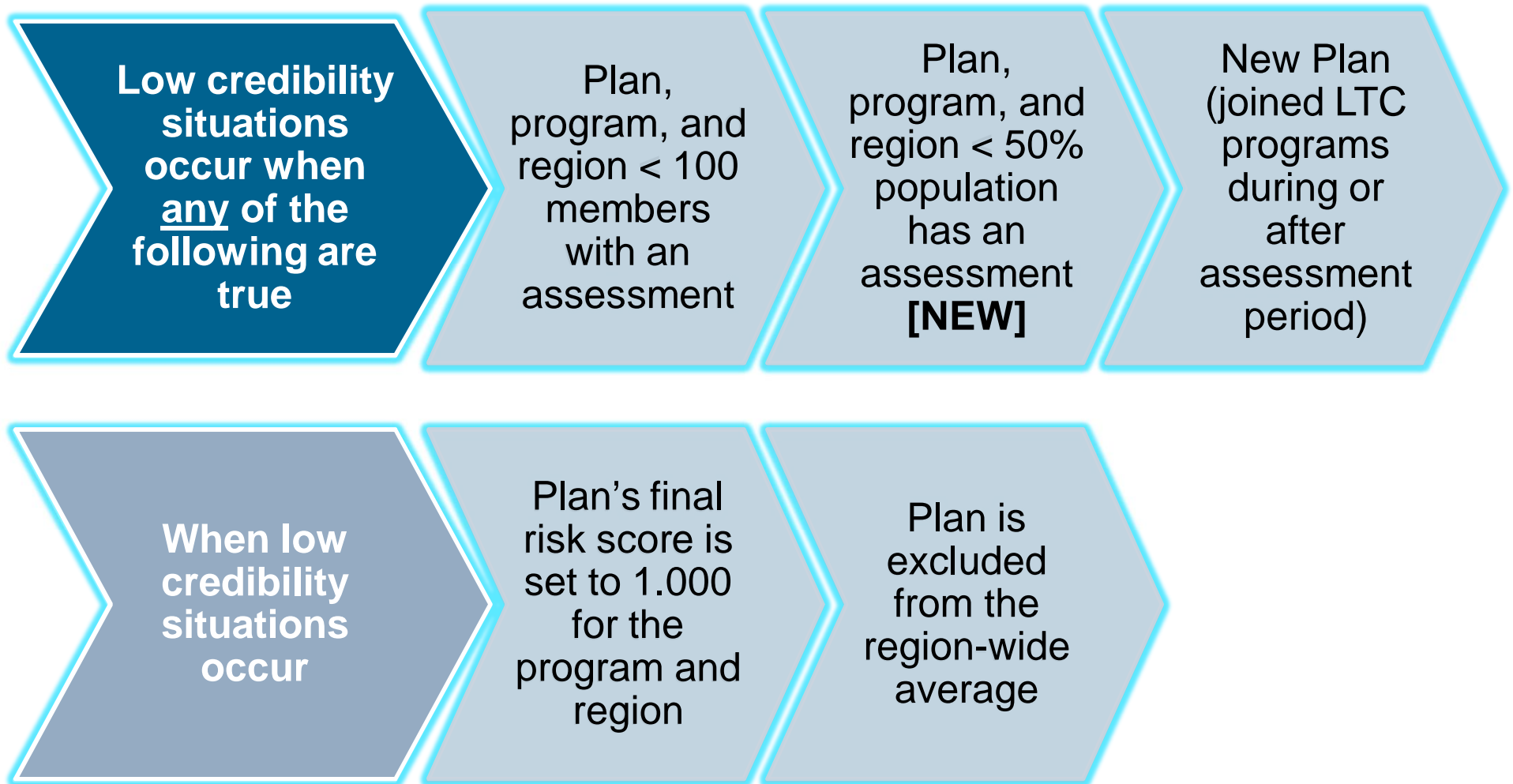
Summary of Methods, pages 33-34.

# MODEL VALIDATION GROUP R-SQUARED CHART



Summary of Methods, page 31.

# LOW CREDIBILITY SITUATIONS



Summary of Methods, page 3 and 45.

# APPLICATION OF RISK SCORES



- The final risk score is applied to the projected LTSS component of the premium rate
- No adjustment applied to administrative or acute care services
- NHT add-on is incorporated after the application of the final risk scores

Summary of Methods, page 46.

**MAKE**  
**TOMORROW,**  
**TODAY**

