



Performance Measurement Work Group Meeting

01/17/2018

Agenda

- ▶ **RY 2020 MHAC**
 - ▶ DRAFT → FINAL – Policy Modeling
 - ▶ Additional Stakeholder feedback?
- ▶ **RY 2020 RRIP**
 - ▶ Improvement Target
 - ▶ National Forecasting (data delays); Cushion; Conversion to All-Payer – (UPDATED Math)
 - ▶ Attainment Target (UPDATED data and targets)
 - ▶ Re-calibrate Improvement Target with final CY 2017 data?
 - ▶ Available from CMS on or around April 2018.
- ▶ **TCOC Model – Measurement Strategy Discussion**

Maryland Hospital Acquired Complications (MHAC)

RY 2020 DRAFT MHAC Policy

- ▶ **Staff presented draft policy to Commission on 1/10/2018**

- ▶ **Staff proposes minimal changes for RY 2020:**
 - ▶ Continue to use established features of the MHAC program in its final year of operation.
 - ▶ Continue to set the maximum penalty at 2% and the maximum reward at 1% of hospital inpatient revenue.

- ▶ **Updates to RY 2020 MHAC Policy:**
 - ▶ Raise the minimum number of discharges required for pay-for-performance evaluation in each APR-DRG SOI category from 2 discharges to 30 discharges.
 - ▶ Exclude low frequency APR-DRG-PPC groupings from pay-for-performance.
 - ▶ Establish a subgroup that will consider Hospital-acquired Complications for RY 2021 and beyond.

Rate Year 2020 Timeline

- ▶ Base Period = **FY 2017**
 - ▶ Used for normative values for case-mix adjustment
- ▶ Performance Period = **CY 2018**
- ▶ Grouper Version: **3M APR-DRG and PPC Grouper Version 35**

Fiscal Year	FY16-Q3	FY16-Q4	FY17-Q1	FY17-Q2	FY17-Q3	FY17-Q4	FY18-Q1	FY18-Q2	FY18-Q3	FY18-Q4	FY19-Q1	FY19-Q2	FY19-Q3	FY19-Q4	FY20-Q1	FY20-Q2	FY20-Q3	FY20-Q4	
Calendar Year	CY16-Q1	CY16-Q2	CY16-Q3	CY16-Q4	CY17-Q1	CY17-Q2	CY17-Q3	CY17-Q4	CY18-Q1	CY18-Q2	CY18-Q3	CY18-Q4	CY19-Q1	CY19-Q2	CY19-Q3	CY19-Q4	CY20-Q1	CY20-Q2	
Quality Programs that Impact Rate Year 2020																			
MHAC			MHAC Base Period																Rate Year Impacted by MHAC Results
									MHAC Performance Period										

MHAC Program Concern

MHAC may penalize random variation in PPC occurrence, as opposed to poor performance, due to an **increasing number of APR-DRG SOI cells with a normative value of zero**

- ▶ Program has a very granular indirect standardization
 - ▶ Complications are measured at the diagnosis and severity of illness level (APR-DRG SOI), of which there are approximately 1,200 combinations *before* considering clinical logic and PPC variation.
- ▶ Program rebases every year
 - ▶ Assesses observed complications using a more recent baseline, which is only one year of evaluation that has multiple years of improvement built into it

Zero norm issue has always existed in MHAC, but has increased over time

RY	Zero Norms	Total Cells	% Zero of Total Cells	Cells with Norms	% Zero of Cells with Norms
RY 2015	40,418	80,916	49.95%	50,626	79.84%
RY 2020	33,503	57,150	58.62%	37,969	88.24%

MHAC Modeling

▶ **Model 1:**

- ▶ Raise minimum number of at-risk discharges per APR-DRG SOI from 2 to 30 discharges

▶ **Model 2:**

- ▶ Raise minimum number of at-risk discharges per APR-DRG SOI cell from 2 to 30 discharges
- ▶ Restrict to the APR-DRG-PPC groupings where at least 80% of PPCs occur in the base to reduce number of cells with a norm of zero in the base period,

80% APR-DRG-PPC Groupings

- ▶ Proposal maintains current methodology but restricts P4P program assessment to the types of patients and PPCs where at least 80% of complications occur.
- ▶ Advantages
 - ▶ Reduces the number of cells with a normative value of zero
 - ▶ Aligns P4P incentives with quality improvement initiatives, which may increase provider engagement
- ▶ Disadvantages
 - ▶ Removes APR-DRGs and PPCs where up to 20% of PPCs occur
 - ▶ Does not match waiver test, under which MD must continue to report PPCs for all patients

Selection of APR-DRG-PPC Groupings

- ▶ Groupings: All combinations of APR-DRG (328) and clinically eligible PPC included in payment program (44 PPC/PPC combos).
 - ▶ Example: APR-DRG 720 Septicemia + PPC 14 Cardiac Arrest

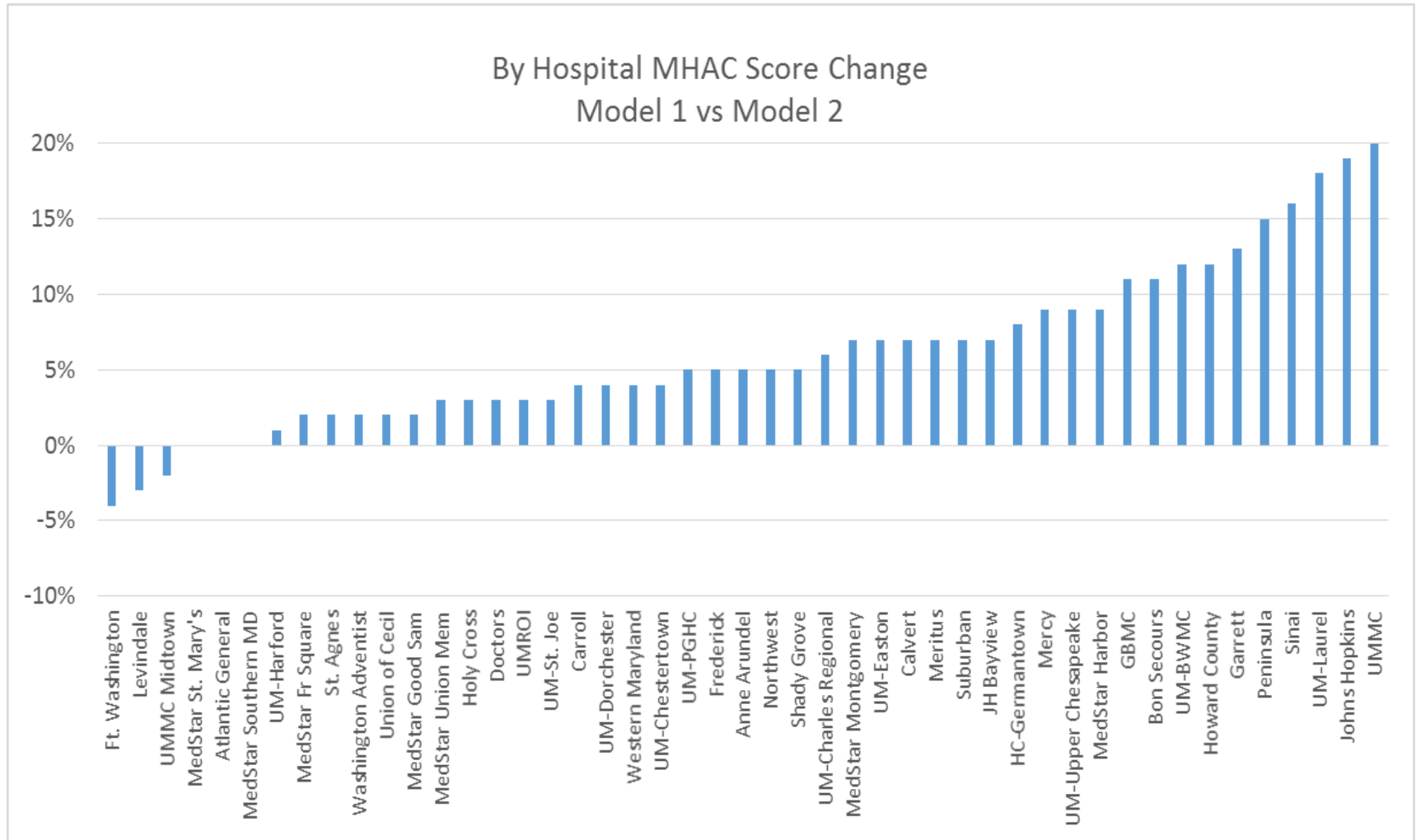
APR-DRG	PPC	Observed PPCs (sorted highest to lowest)	% of Total Observed PPCs	Cumulative Percent	
720	14	45	23%	23%	Included in Payment Program
181	39	36	18%	41%	
540	59	25	13%	53%	
194	14	22	11%	64%	
720	21	21	11%	75%	
230	42	11	6%	80%	
230	9	11	6%	86%	
540	60	9	5%	90%	Excluded
560	59	9	5%	95%	
166	8	6	3%	98%	
190	52	3	2%	99%	
201	6	2	1%	100%	
Total PPCs		200			

MHAC Modeling Results

Model #	Model Description	Statewide Total At-Risk Discharges	Statewide Total PPCs	PPC Rate per 1,000 Discharges	% Zero Norm
1	>30 change only	13,220,025	8,688	0.66	88%
2	>30 + 80% APR-DRG-PPC Combos	5,405,445	7,429	1.37	70%

- ▶ Model 2 retains 85.5% of eligible PPCs in base period.
 - ▶ All APR-DRG-PPC Groupings removed have 1 or 0 PPCs
 - ▶ Significant reduction in the number of at-risk discharges

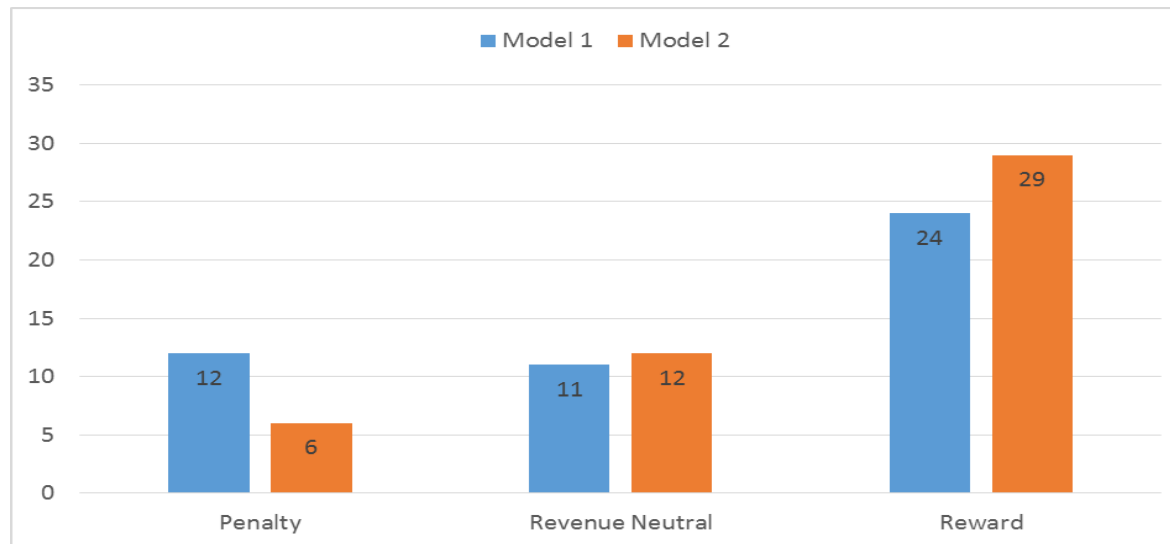
MHAC Scores – Model 1 → Model 2



MHAC Revenue Adjustments – Model 1 → Model 2

Model #	Model Description	Statewide Penalties	Statewide Rewards	Net Revenue Adjustments
1	>30 At-Risk Discharges	-13.5 M	6.1 M	-7.3 M
2	>30 + 80% APR-DRG-PPC Groupings	-3.7 M	14.1 M	+10.5 M

Count of Hospitals in the Penalty, Reward, or Revenue Neutral Zone by Model



- ▶ 13 Revenue adjustments are based on scores using better of attainment/improvement with RY 2019 Base (Oct15-Sep16); RY 2019 Performance YTD (Jan17-Sep17)

RY 2020 PPCs

- ▶ MHA and other stakeholders have requested several changes to the PPCs included in the payment program.
- ▶ Staff has also evaluated status of PPCs included
- ▶ Staff recommends:
 - ▶ No change to serious reportable events, monitoring only PPC list, or tier assignments.
 - ▶ No changes to combos except for the creation of a 3rd combination PPC that includes three infection PPCs that get dropped under current or proposed 80% models.
 - ▶ These are revised recommendations from last month's PMWG; staff has decided on no changes given the magnitude of the 80% change.
 - ▶ For more detailed information regarding specific PPC considerations, please see handout.

R.Y. 2020 Revenue Adjustment Scale

- ▶ Based on staff recommendation and commissioner input, staff are proposing no change to the linear R.Y. 2019 scale.

MHAC Revenue Adjustments	R.Y.18 Scores under R.Y.18 scale	R.Y.18 Scores under R.Y.19 Scale	R.Y.19 YTD under R.Y.19 Scale
Statewide Penalty	\$0	-\$ 1,914,322	-\$ 9,484,222
Statewide Reward	\$34,745,216	\$13,006,968	\$ 4,970,906
Statewide Net Impact	\$34,745,216	\$11,092,646	-\$ 4,513,315

Final MHAC Score	Revenue Adjustment
0.00	-2.00%
0.05	-1.78%
0.10	-1.56%
0.15	-1.33%
0.20	-1.11%
0.25	-0.89%
0.30	-0.67%
0.35	-0.44%
0.40	-0.22%
0.45	0.00%
0.50	0.00%
0.55	0.00%
0.60	0.11%
0.65	0.22%
0.70	0.33%
0.75	0.44%
0.80	0.56%
0.85	0.67%
0.90	0.78%
0.95	0.89%
1.00	1.00%
Penalty threshold: 0.45	
Reward Threshold 0.55	

RY 2020 MHAC Draft Recommendations

- ▶ Continue to use established features of the MHAC program in its final year of operation;
- ▶ Set the maximum penalty at 2% and the maximum reward at 1% of hospital inpatient revenue;
- ▶ Raise the minimum number of discharges required for pay-for-performance evaluation in each APR-DRG SOI category from 2 discharges to 30 discharges (**NEW!**);
- ▶ Exclude low frequency APR-DRG-PPC groupings from pay-for-performance (**NEW!**); and
- ▶ Establish a complications subgroup to the Performance Measurement Workgroup (**NEW!**).

Complications in New Model – Update

Process Update: Complications under the New Model

- ▶ **General feedback Summary:**
 - ▶ Some support to moving to federal (national) complications measures (not methodology)
 - ▶ Some support for retaining some PPCs that are determined to be more reliable, valid and clinically significant complications
- ▶ **Other considerations**
 - ▶ Alternatives to PPC or HAC measures
 - ▶ Data source(s) for measures
 - ▶ Sub-group to review scoring of measures and risk adjustment methodologies
 - ▶ Payment scaling approaches also need to be considered



Next Steps: Complications under the Total Cost of Care Model

- ▶ HSCRC procured a **vendor to convene a sub-group** of clinical and performance measurement experts.
 - ▶ Sub-group will build plan to measure and report clinical adverse events/complications under the Total Cost of Care Model
 - ▶ Scope will include specifying measurement principles and recommending potential all-payer, clinically valid complication measures, including risk adjustment

- ▶ Anticipated **timeline**:
 - ▶ HSCRC is accepting Member Nominations – due Jan 22!
 - ▶ Sub-group will meet approximately monthly beginning in February 2018
 - ▶ Sub-group will recommend measures options to the PMWG by early Fall 2018
 - ▶ PMWG to develop payment adjustment methodology Fall 2018
 - ▶ Timeline subject to change

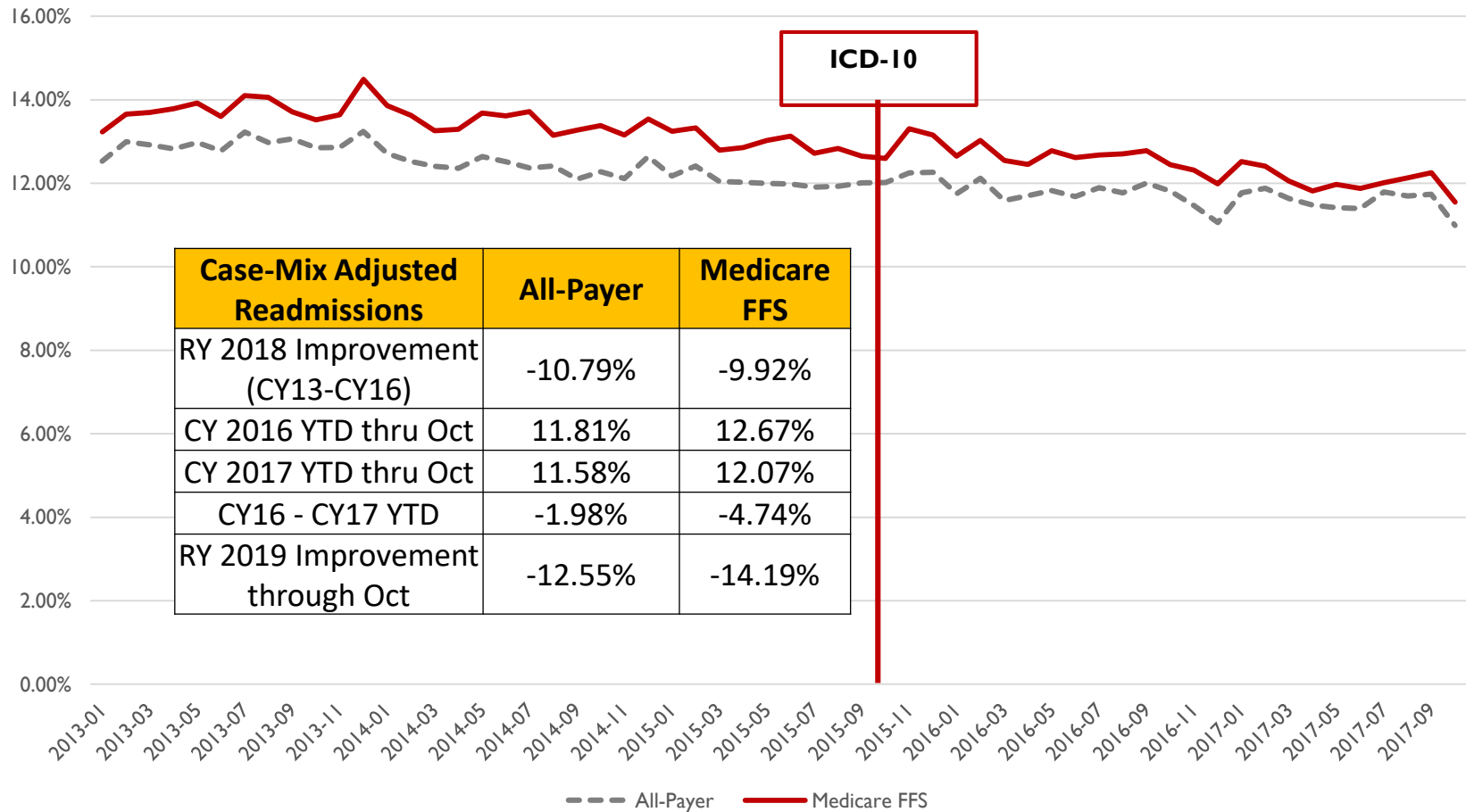


Readmission Reduction Incentive Program (RRIP)

Readmission Reduction Incentive Program

- ▶ Payment program supports the waiver goal of reducing inpatient Medicare readmissions to national level, but applied to all-payers.
- ▶ **Case-Mix Adjusted Inpatient Readmission Rate**
 - ▶ 30-Day
 - ▶ All-Payer
 - ▶ All-Cause
 - ▶ All-Hospital (both intra- and inter-hospital)
 - ▶ Chronic Beds included
- ▶ **Exclusions:**
 - ▶ Same-day and next-day transfers
 - ▶ Rehabilitation Hospitals
 - ▶ Oncology discharges
 - ▶ Planned readmissions
 - ▶ (CMS Planned Admission Version 4 + all deliveries + all rehab discharges)
 - ▶ Deaths

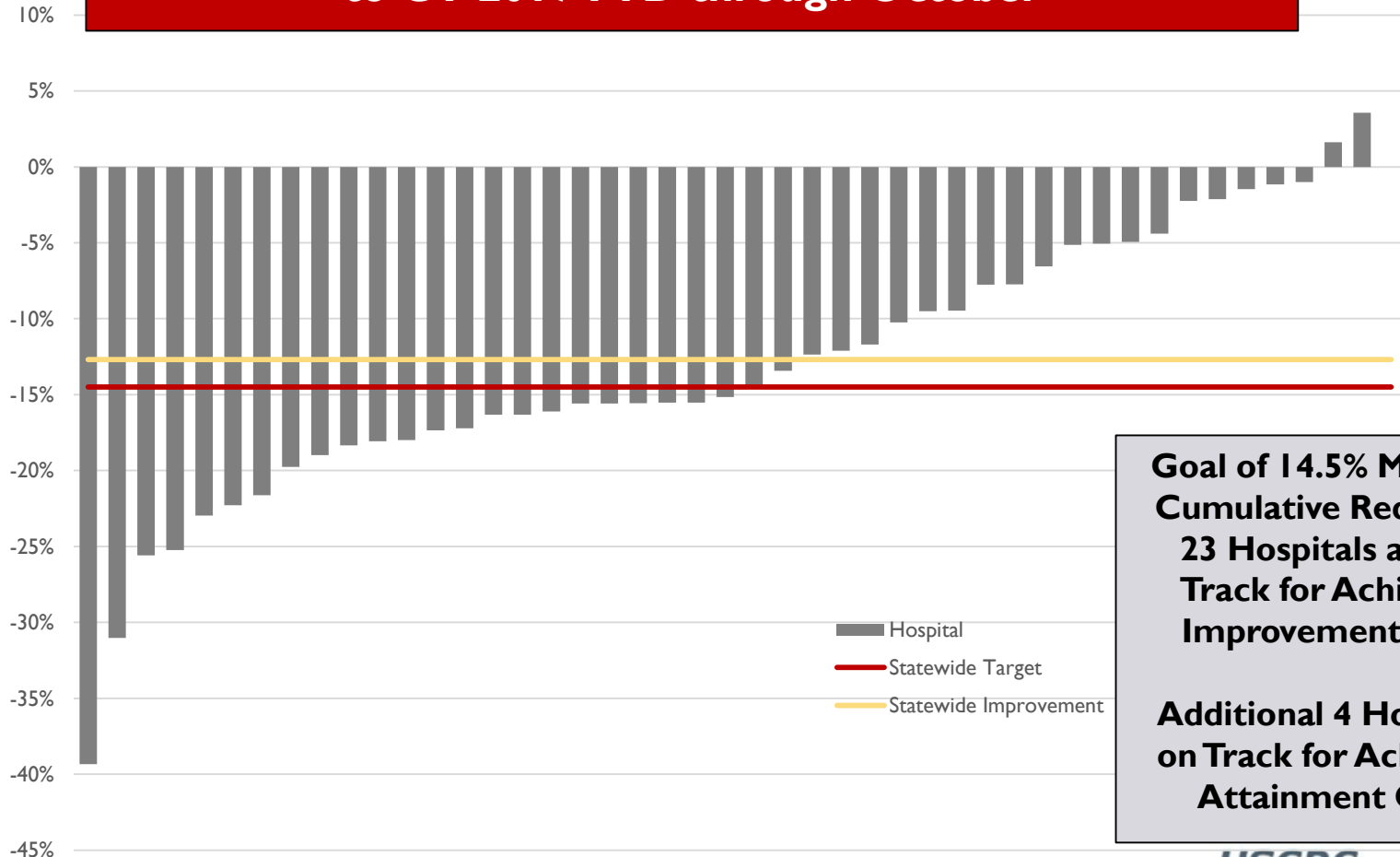
Monthly Case-Mix Adjusted Readmission Rates



22 Note: Based on final data for Jan 2012 – Sep 2017; Preliminary Data for Oct-Nov 2017. Statewide improvement to-date is compounded with complete RY 2018 and RY 2019 YTD improvement.

Change in All-Payer Case-Mix Adjusted Readmission Rates by Hospital

Cumulative change CY 2013 – CY 2016 + CY 2016YTD to CY 2017YTD through October



Goal of 14.5% Modified Cumulative Reduction
23 Hospitals are on Track for Achieving Improvement Goal

Additional 4 Hospitals on Track for Achieving Attainment Goal

HSCRC

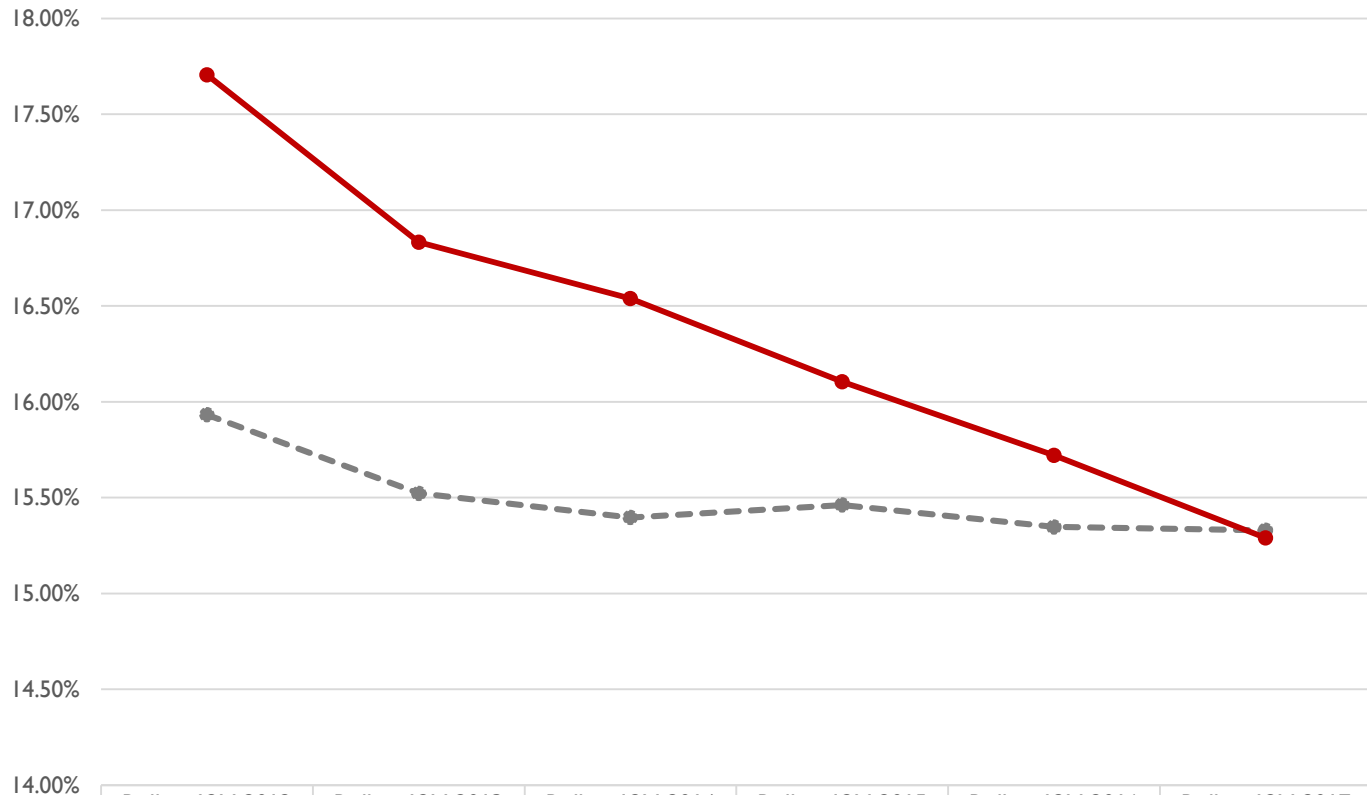
Health Services Cost Review Commission



23 Note: Based on Final data for Jan 2013- Sep 2017, Prelim through Nov 2017.

Medicare Readmissions – Rolling 12 Months Trend

Readmissions - Rolling 12M through Aug



	Rolling 12M 2012	Rolling 12M 2013	Rolling 12M 2014	Rolling 12M 2015	Rolling 12M 2016	Rolling 12M 2017
—●— National	15.93%	15.52%	15.40%	15.46%	15.35%	15.33%
—●— Maryland	17.71%	16.83%	16.54%	16.10%	15.72%	15.29%



Proposed Timeline

- ▶ **Base Period: CY 2016**
 - ▶ Used for normative values for case-mix adjustment
- ▶ **Performance Period: CY 2018**
- ▶ **grouper Version: APR-DRG Grouper Version 35**

Rate Year (Maryland Fiscal Year)	FY16- Q3	FY16- Q4	FY17- Q1	FY17- Q2	FY17- Q3	FY17- Q4	FY18- Q1	FY18- Q2	FY18- Q3	FY18- Q4	FY19- Q1	FY19- Q2	FY19- Q3	FY19- Q4	FY20- Q1	FY20- Q2	FY20- Q3	FY20- Q4
Calendar Year	CY16- Q1	CY16- Q2	CY16- Q3	CY16- Q4	CY17- Q1	CY17- Q2	CY17- Q3	CY17- Q4	CY18- Q1	CY18- Q2	CY18- Q3	CY18- Q4	CY19- Q1	CY19- Q2	CY19- Q3	CY19- Q4	CY20- Q1	CY20- Q2
Quality Programs that Impact Rate Year 2020																		
RRIP Incentive	RRIP Base Period (Proposed)																Rate Year Impacted by RRIP	
									RRIP Performance Period (Proposed)									

Flowchart of Predicting Improvement Target

Step 1

- **Test Past Accuracy of Medicare Predictive Models**

Step 2

- **Project CY 2018 National Medicare rates**

Step 3

- **Add a cushion to Medicare projections**

Step 4

- **Convert MD Medicare (projected) reduction to All-Payer Improvement Target**

Step 5

- **Compound 2016-2018 Improvement Target (RY 2020) with 2013-2016 Improvement (RY 2018)**

Step 1: Testing Past Accuracy of Forecasting Models

- ▶ We tested the predictive accuracy of 7 forecasting models, and selected the **Average Annual Change** to forecast the National Medicare Readmission Rate at end of CY 2018.

Year	Actual Rate	Predicted Rates						
		Average Annual Change	Most recent annual change (cummulative CY rates)	12 MMA	24 MMA	PROC FORECAST	ARIMA	STL
2013	15.38%	15.24%	15.24%	15.90%				
2014	15.49%	14.93%	15.01%	15.51%	15.66%	14.91%	15.21%	15.28%
2015	15.42%	15.22%	15.60%	15.42%	15.41%	14.83%	15.57%	15.48%
2016	15.31%	15.20%	15.35%	15.47%	15.46%	14.96%	15.61%	15.47%

- ▶ For today's modeling, we have averaged the 7 forecasting models' output for CY 2018.
 - ▶ Last month we selected AAC forecasted rate.

Step 2: Projecting National Medicare Rate

- ▶ Average of Projections for CY 2018 National Readmission Rate is ~**15.24%**.
 - ▶ In previous years, MD slowed improvement in second half of year.
 - ▶ Range of CY 2018 estimates is **15.01% to 15.32%**.

Model	AAC	MRAC	12MMA	24MMA	PROC	ARIMA	STL
CY 2018	15.27%	15.27%	15.31%	15.32%	15.01%	15.21%	15.27%

- ▶ For purposes of today's meeting, we are using the simple average of the seven models.
 - ▶ Last month, we used the AAC, which at that time was 15.25%.

Step 2: Projecting National Medicare Rate

Year	National Medicare Rate
CY 13	15.38%
CY14	15.49%
CY 15	15.42%
CY16	15.31%
CY17 (est. based on Avg. of Projections)	15.29%



	Model	Projections of National Rate
2018	AAC	15.27%
	MRAC	15.27%
	12MMA	15.31%
	24MMA	15.32%
	PROC	15.01%
	ARIMA	15.21%
	STL	15.27%
	Avg of Models	15.24%



Step 3: Cushion for CY 2018 Predictions

- ▶ Per discussions, we will include a cushion in our predictive methodology to ensure waiver test is achieved at end of CY 2018
- ▶ Cushion is modeled at **0.1%** reduction from prediction, and **0.2%** reduction.
 - ▶ Both cushions are assuming that the prediction methodology is *under*-predicting the National Readmission Rate improvement for CY 2018.
 - ▶ Need to be conservative in predictions in final year of Model.

	Predicted Trend	Predicted Trend + -0.1% Cushion	Predicted Trend + -0.2% Cushion
CY 2018 National Readmission Rate	15.24%	15.14%	15.04%

Step 3: Cushion for CY 2018 Predictions

- ▶ Calculate the reduction in MD Medicare Readmission rate that will reach the projected National Rate.
- ▶ MD Medicare rate in CY 2016 was **15.60%**. To reach the projected national numbers by CY 2018, MD Medicare Readmissions must reduce by:

	Predicted Trend	Predicted Trend + - 0.1% Cushion	Predicted Trend + - 0.2% Cushion
CY 2018 National Readmission Rate	15.24%	15.14%	15.04%
MD Medicare Improvement Necessary from CY 2016 to reach CY 2018 National Readmission Rate	-2.32%	-2.96%	-3.60%

-
- ▶ 31 Calculations may vary due to rounding; Improvement Target inputs are not truncated until final step.

Step 4: Conversion to All-Payer Target

- ▶ Once MD Medicare reduction target is determined, need to calculate corresponding All-Payer reduction.
- ▶ Multiple methods used to Compare MD Medicare and MD All-Payer Readmission Trends
 - ▶ **Simple difference:** MD Medicare reduction is approximately **3.65%** less than corresponding reduction in All-Payer (CY 17 projected compared to CY 13 observed)
 - ▶ Last month, this constant was **2.01%**.
 - ▶ **Ratio of difference:** MD Medicare reduction is approximately **70%** of All-Payer reduction (CY 17 projected compared to CY 13 observed)
 - ▶ Last month, this constant was **81%**.
 - ▶ **Additional Ratios:** Iterative analysis of ratio of MD Medicare (Unadjusted) to MD Casemix-Adjusted All-Payer yields a ratio constant of **50.4%**.
 - ▶ We did not present this constant last month. For the RY 2019 policy, this constant was **61%**

Step 4: Conversion to All-Payer Target

▶ Further explanation of Simple Conversion Factor Calculations:

	Predicted Trend
MD Medicare Readmission Change CY13-CY17 (projected)	-8.59%
All Payer Readmission Change CY13- CY17 (projected)	-12.24%
1. All Payer Adjustment Factor (Simple Difference)	3.65%
2. All Payer Adjustment Factor (Ratio Difference)	70%
3. All Payer Adjustment Factor (Iterative Ratio Difference)	50.4%

Step 4: Conversion to All-Payer Target

- ▶ Conversion yields the following output:

	Predicted Trend	Predicted Trend + -0.1% Cushion	Predicted Trend + -0.2% Cushion
CY 18 Medicare FFS Readmission Rate Reduction Target Compared to CY 16	-2.32%	-2.96%	-3.60%
Method 1: Add difference in rates of change to FFS target (-3.65%)	-5.97%	-6.61%	-7.25%
Method 2: Use ratio of changes in rates to scale FFS target (70%)	-3.30%	-4.21%	-5.13%
Method 3: Incremental Ratio (50.4%)	-4.60%	-5.87%	-7.14%
Average of Conversion Methods 1-3	-4.62%	-5.56%	-6.51%

- ▶ Current suggestion to Model with **-5.56%** CY 2018 compared to CY 2016.
 - ▶ Last month, the outputs yielded a suggested **-4.21%** improvement.
 - ▶ Currently, we are simply averaging the output of Methods 1-3.

Improvement Target

- ▶ **RY 2019 Improvement Target WITH Compounded Target**

$$(1 - .1075) * (1 - .0375) - 1$$
$$\sim 14.10\%$$

- ▶ Original Improvement Target (without compounding) was 14.50%

- ▶ RY 2020 Modeled Improvement Target (-5.56%) compounded with experienced RY 2018 Improvement (-10.75%) yields:

- ▶ **RY 2020 Improvement Target: (15.72%)**

$$(1 - .1075) * (1 - .0556) - 1$$
$$\sim 15.72\%$$

- ▶ Last month, this total cumulative improvement was projected to be 14.51%.

Flowchart of Predicting Attainment Target

Step 1

- **Take Current All-Payer Casemix-Adjusted Readmission Rates**

Step 2

- **Adjust these rates for Out-of-State Readmissions**
- Using CMMI data, the ratio is as follows: *Total Readmissions : InState Readmissions*

Step 3

- **Calculate the 25th and 10th percentiles for the statewide distribution of scores**
- 25th Percentile is **threshold** to receive attainment point rewards
- 10th Percentile is **benchmark** to receive maximum attainment point rewards

Step 4

- **Adjust benchmark and threshold downward 2.33%, per principles of continuous quality improvement**

Attainment Target – Calculation Outputs

- ▶ Currently modeled using Case-Mix Adjusted Readmissions Rates preliminary through November, with Readmissions through October.
- ▶ (Out-of-State Ratios currently Sept 2016-Aug 2017, given CMMI data runout).

	CY17 Jan-Oct	With Cushion%*
CYTD17 Top 10%	10.40%	10.15%
CYTD17 Top 25%	10.96%	10.70%

*2.33% cushion based on 2% cushion adjusted for 14 months

RX 2019 Revenue Adjustment Scales

▶ RX 2020 Improvement Scale –

All Payer Readmission Rate Change CY13-CY18	RRIP % Inpatient Revenue Payment Adjustment
A	B
GREATER Improvement	1.0%
-26.22%	1.0%
-20.97%	0.5%
-15.72%	0.0%
-10.47%	-0.5%
-5.22%	-1.0%
0.03%	-1.5%
5.28%	-2.0%
LESSER Improvement	-2.0%

- ▶ The improvement scale uses the slope of the RX 2018 scaling, adjusted for the RX 2020 reward/penalty cut point.
- ▶ **RX 2020 Improvement Target – 15.72%**

▶ RX 2020 Attainment Scale

All Payer Readmission Rate CY18	RRIP % Inpatient Revenue Payment Adjustment
A	B
LOWER Readmissions	1.0%
10.15%	1.0%
10.43%	0.5%
10.70%	0.0%
10.98%	-0.5%
11.25%	-1.0%
11.52%	-1.5%
11.80%	-2.0%
HIGHER Readmissions	-2.0%

- ▶ The attainment scale calculates maximum rewards at the 10th percentile of performance for most recent performance (adjusted to CY 2017), and maximum penalties are linearly scaled based on max reward and reward/penalty cut point.
- ▶ **RX 2020 Attainment Target – 10.70%**

- ▶ 38 These targets will be updated with refreshed data between Draft and Final Policies.

TCOC Model – Measure Strategy Discussion

Extension of the All-Payer Model

- ▶ CMS has granted a **one-year extension of the existing Maryland All-Payer Model** – announced on Jan 8, 2018
- ▶ What this means for Quality Programs – Full Steam Ahead!
 - ▶ First order of business is to finalize updates to the quality programs for RY 2020
 - ▶ Readmission and PAU
 - ▶ Consider by mid-2018 risk adjustment or additional protections can be done for ED measures in QBR program

CY 2018 PMWG- Program Strategies Under the TCOC Model

In 2018, Quality team will work with Performance Measurement Work Group on the following priorities:

- ▶ Revamp Maryland **clinical adverse events/hospital-acquired complications**
 - ▶ Sub-group beginning February 2018 to consider appropriate all-payer complication measures, scoring, and risk adjustment
- ▶ Re-envision **Readmissions Measure**
 - ▶ Analyze concerns over exceeding optimal readmission rate
 - ▶ Consider new inclusions (specialty hospitals, observation stays)
 - ▶ Consider admission rates per capita
- ▶ Build program to incentivize **Population Health Improvement**
 - ▶ Monetize population health improvements and further provider alignment

CY 2018 PMWG- Program Strategies Under the TCOC Model

In 2018, Quality team will work with Performance Measurement Work Group on the following priorities (continued):

- ▶ Expand definition of **Potentially Avoidable Utilization**
 - ▶ Through existing program or modified approach
- ▶ Consider additional modifications to **overall Quality programs**
 - ▶ Analyze **scoring** and **scaling** methodologies for each program
 - ▶ **Service-line approach** - continue to consider measures specific to certain patient populations/procedures (Cancer, Orthopedic Surgery, Deliveries, etc.)
 - ▶ **Electronic Medical Records** – consider moving towards use of clinical data

Our next **Performance Measurement Work Group** Meeting is scheduled to take place **Wednesday, February 21st 2018 at 9:30 AM**

Contact Information

Email: HSCRC.performance@Maryland.gov