Performance Measurement Workgroup Meeting:

01/20/2016

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Transformation Activities Update

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Transformation Activities to Date

- **GBR Dollars-**
  - In the rates of all hospitals for investments for reducing PAU;
  - Investment reports for FY2014 and 2015 itemize existing programs or programs that are outside the scope of the Infrastructure dollars.
- **System Transformation Plan-**
  - short-term and long-term strategies and incremental investment plans for improving care coordination and chronic care, reducing potentially avoidable utilization, and aligning with non-hospital providers;
  - hospitals should continue to develop their plans and expand their exposure to both hospital-based and non-hospital based providers, patients/families, and other social and public service entities.
- **Regional Partnerships for Health System Transformation-**
  - Designed to facilitate collaboration between hospitals and community-based partners. The plans target services based on patient and population needs, collaborate on analytics, and plan and develop care coordination and population health improvement approaches that reduce avoidable utilization of Maryland hospitals.
  - None of the RP plans outlined a hospital-funded, outcomes-based financial incentive plan of sufficient clarity and magnitude that will divert provider attention from strict service-based, fee-for-service reimbursement.

Transformation Implementation proposals due 12/22/15 Specified a set of essential measures that must be measured.

HSCRC Key Outcome Measures

Measure	Definition	Source	Population(s) expected
Total hospital cost per capita	Hospital charges per person	HSCRC Casemix Data	All population for covered zips, high utilization set, target population if different, each by race/ethnicity
Total hospital admits per capita	Admits per thousand person	HSCRC Casemix Data	
Total health care cost per person	Aggregate payments/person	HSCRC Total Cost Report	
ED visits per capita	Encounters per thousand	HSCRC Casemix Data	
Readmissions	All Cause 30-day Inpatient Readmits (see HSCRC specs)	Regional Readmission Reports (CRISP)	
Potentially avoidable utilization	Total PAU Charges/Total Charges	PAU Patient Level Reports	
Patient experience	TBD		
Composite quality measure	TBD		

HSCRC Key Process Measures

Measure	Definition	Source	Population(s) expected
Use of Encounter Notification Alerts	% of inpatient discharges that result in an Encounter Notification System alert going to a physician	CRISP	All population for covered zips, high utilization set, target population if different
Completion of health risk assessments	% High utilizers with completed Health Risk Assessments	Partnership	High utilization set, target population if different
Established longitudinal care plan	% of High Utilizers Patients with completed care	Partnership	High utilization set, target population if different
Shared Care Profile	% of patients with care plans with data shared through HIE in Care Profile	CRISP	High utilization set, target population if different
Portion of target pop. with contact from assigned care manager	% of High Utilizers Patients with contact with an assigned care manger	Partnership	High utilization set, target population if different

HSCRC Key Cost/Savings Measures

- ROI = G (variable savings) ÷ D (annual intervention)
- ROI should be greater than 1 at steady state operations (and get there early)

Illustration	High Utilizers ≥ 3 IP Admits	High Cost Top 10%
A. Number of Patients	40,601	136,601
B. Number of Medicare and Dual Eligible	27,000	79,000
C. Annual Intervention Cost/Patient	$3,500	$3,500
D. Annual Intervention Cost (B X C)	$95M	$277M
E. Annual Charges (Baseline)	$1.9B	$3.8B
F. Annual Gross Savings (15% X E)	$280M	$570M
G. Variable Savings (F X 50%)	$140M	$285M
H. Annual Net Savings (G-D)	$45M	$8M

Consumer Dashboard Draft Metrics

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Draft Consumer Dashboard Measures

Measure	Data Source	Frequency	Notes
# of observation stays*	HSCRC case mix Data	Quarterly	
# of Transfers*	HSCRC case mix Data	Quarterly	
# beds/ downsizing	MHCC approved Certificate of Need	Annually	Beds versus occupancy rates?
Hospice (or palliative care) use trends*	HSCRC case mix Data	Quarterly	
Staffing levels (ED, others)	HSCRC annual filing and wage and salary tables	Annually	Schedule D of the hospital Financial Annual Filing enables each hospital to report expenses and FTEs for the following patient care units
ED wait times	CMS Emergency Room measures	Quarterly	• Inpatient Quality Reporting data for patients admitted • Outpatient Quality Reporting data for patients not admitted (later)

MHAC FY2018 Policy

Staff Recommend Keeping the Current FY2017 MHAC Methodology for FY2018

- Staff believe the current approach balances hospital-specific incentives with state goals, sets continuous specific quality improvement goals, and focuses the payment adjustments on best and worst performers.
- Specific recommendations to update the MHAC policy for FY 2018 include the following:
  - The program should continue to use the same scaling approach:
    - The program should continue the contingent scaling approach, where a higher level of revenue is at risk if the statewide improvement target is not met. Rewards should only be distributed if the statewide improvement target is met.
    - Hold-harmless (no-adjustment) zones should be created to focus the payment adjustments to both ends of the performance spectrum.
    - Rewards should not be limited to the penalties collected.
  - The statewide reduction target should be set at 6 percent, comparing FY 2015 with CY 2016 risk-adjusted PPC rates.

MHAC FY2018 Base Year Information- PPC Tier 1

PPC	PPC Description	Observed Cases #	FY 2017 Tier	MHA FY 2018 Tier 1 Rec	Low Reliability	HSCRC Recommendation
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation	1054	1	Y		Keep in Tier 1
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation	637	1	Y		Keep in Tier 1
5	Pneumonia & Other Lung Infections	674	1	Y		Keep in Tier 1
6	Aspiration Pneumonia	496	1	Y		Keep in Tier 1
7	Pulmonary Embolism	304	1	Y		Keep in Tier 1
9	Shock	512	1			Keep in Tier 1.
14	Ventricular Fibrillation/Cardiac Arrest	975	1	Y		Keep in Tier 1
16	Venous Thrombosis	411	1			Keep in Tier 1 . Do not combine.
21	Clostridium Difficile Colitis	610	3	Y		Move to Tier 1.
27	Post-Hemorrhagic & Other Acute Anemia with Transfusion	503	2	Y		Move to Tier 1.
35	Septicemia & Severe Infections	507	1	Y		Keep in Tier 1
37	Post-Operative Infection & Deep Wound Disruption Without Procedure	378	1	Y		Keep in Tier 1
38	Post-Operative Wound Infection & Deep Wound Disruption with Procedure	33	1		Y	Keep in Tier 1 due to clinical significance.
40	Post-Operative Hemorrhage & Hematoma without Hemorrhage Control Procedure or I&D Proc	920	1	Y		Keep in Tier 1
41	Post-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or I&D Proc	130	2	Y		Move to Tier 1.
42	Accidental Puncture/Laceration During Invasive Procedure	458	1			Keep in Tier 1
49	Iatrogenic Pneumothrax	118	1			Keep in Tier 1 .
54	Infections due to Central Venous Catheters	95	1			
65	Urinary Tract Infection without Catheter	1036	1	Y		Keep in Tier 1
66	Catheter-Related Urinary Tract Infection	114	1			Keep in Tier 1.

MHAC FY 2018 – PPCs in Monitoring Status

PPC	PPC Description	Observed Cases #	FY 2017 Tier	MHA FY 2018 Tier 1 Rec	Low Reliability
2	Extreme CNS Complications	77	3		Y
15	Peripheral Vascular Complications Except Venous Thrombosis	83	3		Y
20	Other Gastrointestinal Complications without Transfusion or Significant Bleeding	129	3		Y
29	Poisonings Except from Anesthesia	71	3		Y
33	Cellulitis	195	3		Y

MHAC FY 2018 – Combined PPCs

PPC	PPC Description	Observed Cases #	FY 2017 Tier	MHA FY 2018 Tier 1 Rec	Low Reliability	HSCRC Revised Recommendation (Tier for weighting vs. Monitoring Only)
17	Major Gastrointestinal Complications without Transfusion or Significant Bleeding	209	2		Y	Tier 2. Combine 17, 18 for scoring.
18	Major Gastrointestinal Complications with Transfusion or Significant Bleeding	98	2		Y	Tier 2. Combine 17, 18 for scoring.
55	Obstetrical Hemorrhage without Transfusion	1033	3	Y		Tier 2. Combine PPC 55, 56 for scoring.
56	Obstetrical Hemorrhage with Transfusion	494	3	Y		Tier 2. Combine PPC 55, 56 for scoring.
57	Obstetric Lacerations & Other Trauma Without Instrumentation	891	3			Tier 2. Combine PPC 57, 58 for scoring
58	Obstetric Lacerations & Other Trauma With Instrumentation	304	3			Tier 2. Combine PPC 57, 58 for scoring.
25	Renal Failure with Dialysis	32				Tier 2. Currently Combined PPC 67 . (PPC 25, 26, 43, 63, 64)
26	Diabetic Ketoacidosis & Coma	12				Tier 2. Currently Combined PPC 67 . (PPC 25, 26, 43, 63, 64)
43	Accidental Cut or Hemorrhage During Other Medical Care	27				Tier 2. Currently Combined PPC 67 . (PPC 25, 26, 43, 63, 64)
63	Post-Operative Respiratory Failure with Tracheostomy	24				Tier 2. Currently Combined PPC 67 . (PPC 25, 26, 43, 63, 64)
64	Other In-Hospital Adverse Events	255				Tier 2. Currently Combined PPC 67 . (PPC 25, 26, 43, 63, 64)

Benchmark Update – Top 25th best Performance by Patient Population

Hospitals	At Risk	Observed	Expected	O/E ratio	Top 25th o/e ratio Benchmark Hospitals	Population covered
Hospital1	1000	5	10	0.50	Hospital1	1,000
Hospital2	1000	10	18	0.55	Hospital2	1,000
Hospital3	1000	15	25	0.60		
Hospital4	1000	30	46	0.65		
Hospital5	1000	60	92	0.65		
Hospital6	1000	120	171	0.70		
Hospital7	10000	240	343	0.70		
Hospital8	10000	480	600	0.80		
Hospital9	10000	960	1,067	0.90		
Hospital10	10000	1,920	1,920	1.00		
Total	**46,000**	**3,840**	**4,293**			
					Percent population	**4%**
					Bechmark	**0.53**

Cumulative Patients	Cumulative Percent	Top 25th Patients At Risk Benchmark Hospitals
1000	2%	Hospital1
2000	4%	Hospital2
3000	7%	Hospital3
4000	9%	Hospital4
5000	11%	Hospital5
6000	13%	Hospital6
16000	35%	Hospital7
26000	57%	
36000	78%	
46000	100%	
	Percent population	**35%**
	Bechmark	**0.68**

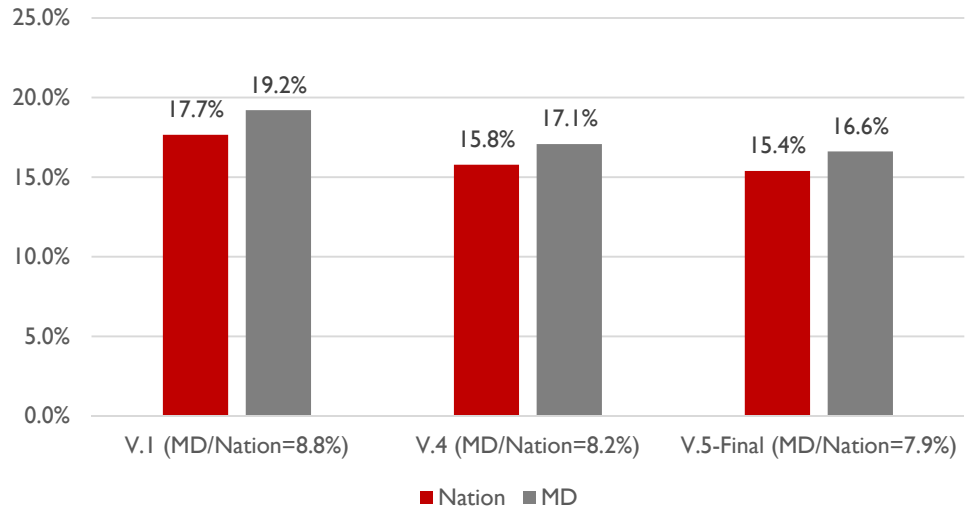
MHAC Base Year Information

- Memo summarizing the changes and baseline information
- Updated Scaling Points
- Hospital Base Year Scores
- Case-level files

RRIP FY2018 Policy

CMMI readmission measure specification refinements reduced the difference between Maryland and National readmission rates to 7.9% in CY2013

- Refinements include
  - Requiring 30 day enrollment period after hospitalization
  - Excluding special-licensed beds from Maryland rates similar to the national rate
  - Refining transfer logic



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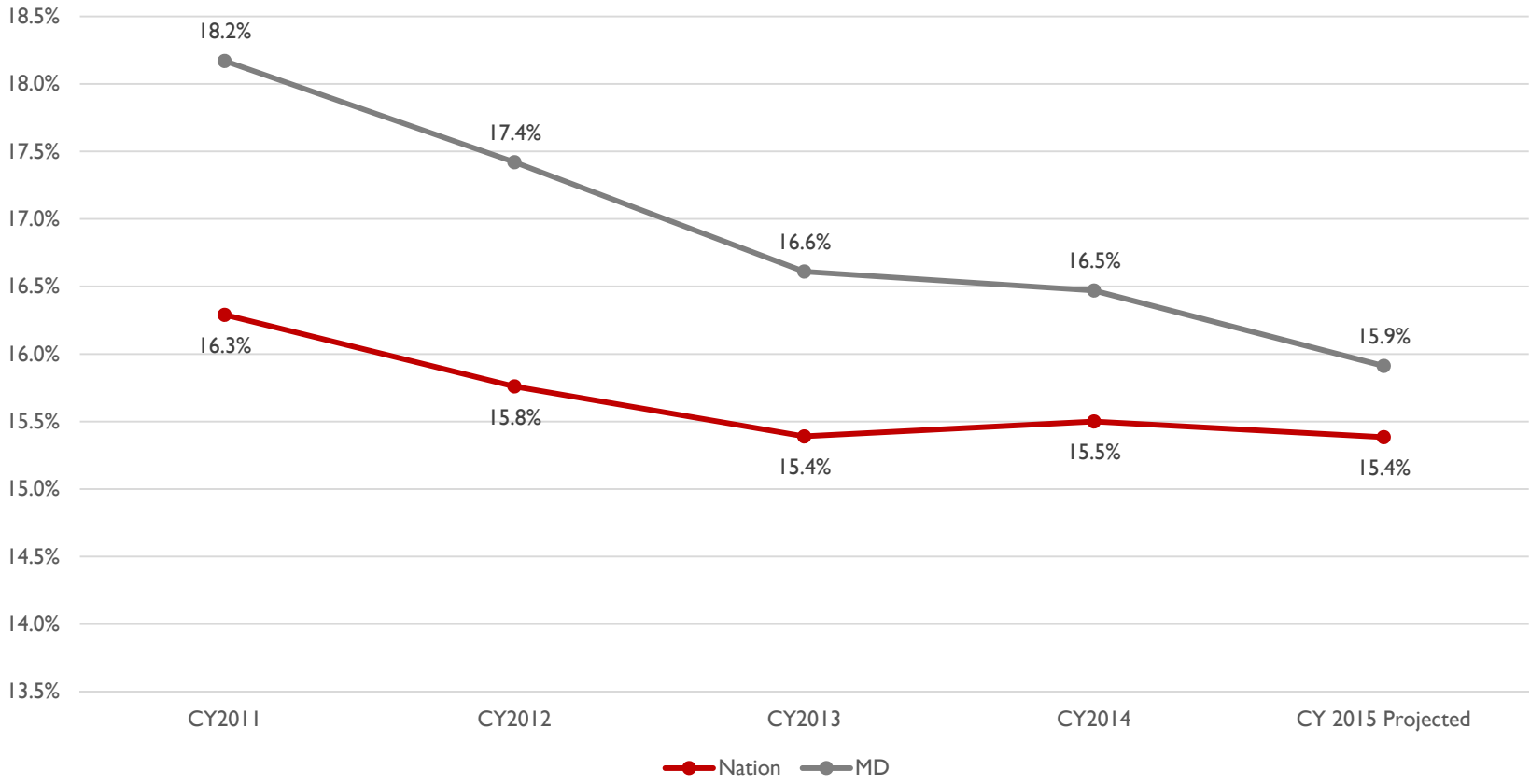
Maryland is reducing readmission rate faster than the nation

Reduction in the National Readmission Rate remained small in CY2015



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Maryland is meeting readmission target for CY2015 based on January through August trend

- Trend data is difficult to predict
- Percentage Points based calculation:
  - National Readmission Rate Change = -0.1 percentage points
  - Maryland Target = (National Rate of Change + 1/5 of base year Difference) = (-0.1% +-0.2%) = -0.4 percentage points
  - Maryland Readmission Rate Change = -0.6 percentage points
- Percent based calculations:
  - National Readmission Rate Change = -0.8%
  - Maryland Target = -2.2%
  - Maryland Readmission Rate Change = -3.4%

CMMI Year to Date (August) Target Calculation (Percent Point Based Calculation)

		Nation		MD		MD- US Difference
		% Readmissions	Percent Change in Rate of Readmits	% Readmissions	Percent Change in Rate of Readmits	% Readmits
		c1	c2	c3	c4	c5
CY2011	L1	16.3%		18.2%		1.9%
CY2012	L2	15.8%	-0.5%	17.4%	-0.8%	1.7%
CY2013	L3	15.4%	-0.4%	16.6%	-0.8%	1.2%
CY2014	L4	15.5%	0.1%	16.5%	-0.1%	1.0%
CY 2014 YTD		15.5%		16.5%		
CY 2015 YTD		15.4%	-0.1%	16.0%	-0.6%	0.6%
CY 2015 Projected		15.4%	-0.1%	15.9%	-0.6%	0.5%
CY 2015 Target				16.1%	-0.4%	0.7%
Targets for Future Years						
CY2016	L5	15.3%	-0.1%	15.6%	-0.3%	0.4%

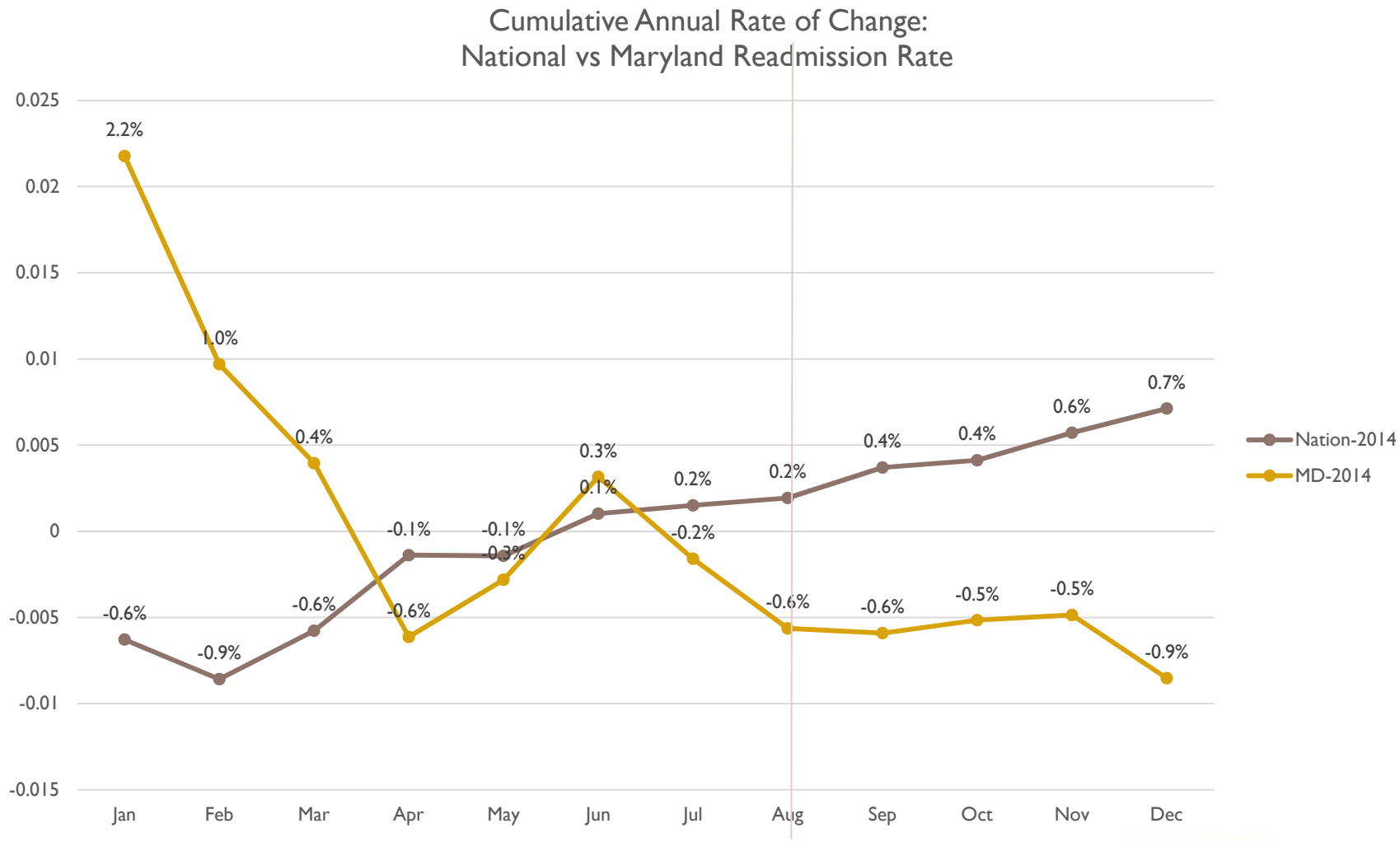
CMMI Year to Date (August) Target Calculation (% Based Calculation)

		Nation		MD		MD- US Difference
		% Readmissions	Percent Change in Rate of Readmits	% Readmissions	Percent Change in Rate of Readmits	% Readmits
		c1	c2	c3	c4	c5
CY2011	L1	16.29%		18.17%		
CY2012	L2	15.76%	-3.3%	17.42%	-4.1%	10.5%
CY2013	L3	15.39%	-2.3%	16.61%	-4.6%	7.9%
CY2014	L4	15.50%	0.7%	16.47%	-0.8%	6.3%
CY 2014 YTD		15.49%		16.54%		
CY 2015 YTD		15.38%	-0.75%	15.98%	-3.4%	3.93%
CY 2015 Projected		15.38%	-0.75%	15.91%	-3.4%	3.43%
CY 2015 Target				16.11%	-2.21%	4.7%
Targets for Future Years						
CY2016	L5	15.27%	-0.75%	15.62%	-1.85%	2.3%

RRIP All-Payer Target Calculation

Measurement Years	Base Year MD / National Readmission Rate	Assumed National Rate of Change	MD Annual Medicare RRIP Target	MD Cumulative Medicare Rate of Target	All Payer to Medicare Readmission Rate Percent Change Difference	Cumulative All Payer Target
CY16 - Current Rate of Change	7.9%	-0.75%	-1.85%	-5.98%	-1.41%	-9.09%
CY16 -Lowess Model Lowest Bound		-0.79%	-1.89%	-5.84%	-1.41%	-8.95%
CY 16 Long Term Historial Trend		-1.72%	-1.11%	-9.18%	-1.41%	-12.29%

Projecting readmission rates is difficult: Annual rate of change in December was quite different than the one in August in CY 2014



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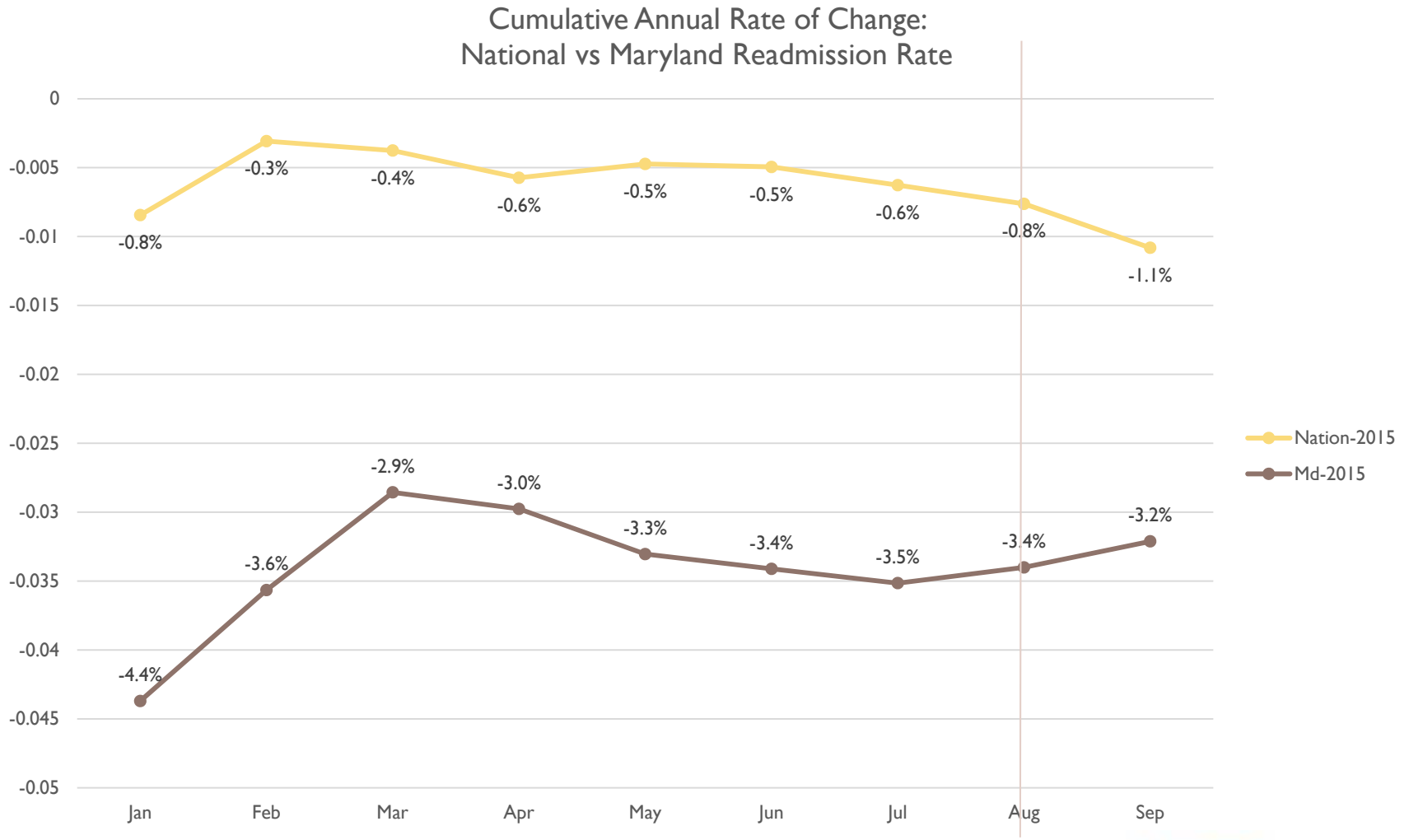
National rate of decline is speeding up, while Maryland's is slowing down based on September preliminary data



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Hospital Readmission Rate Improvement Year to Date

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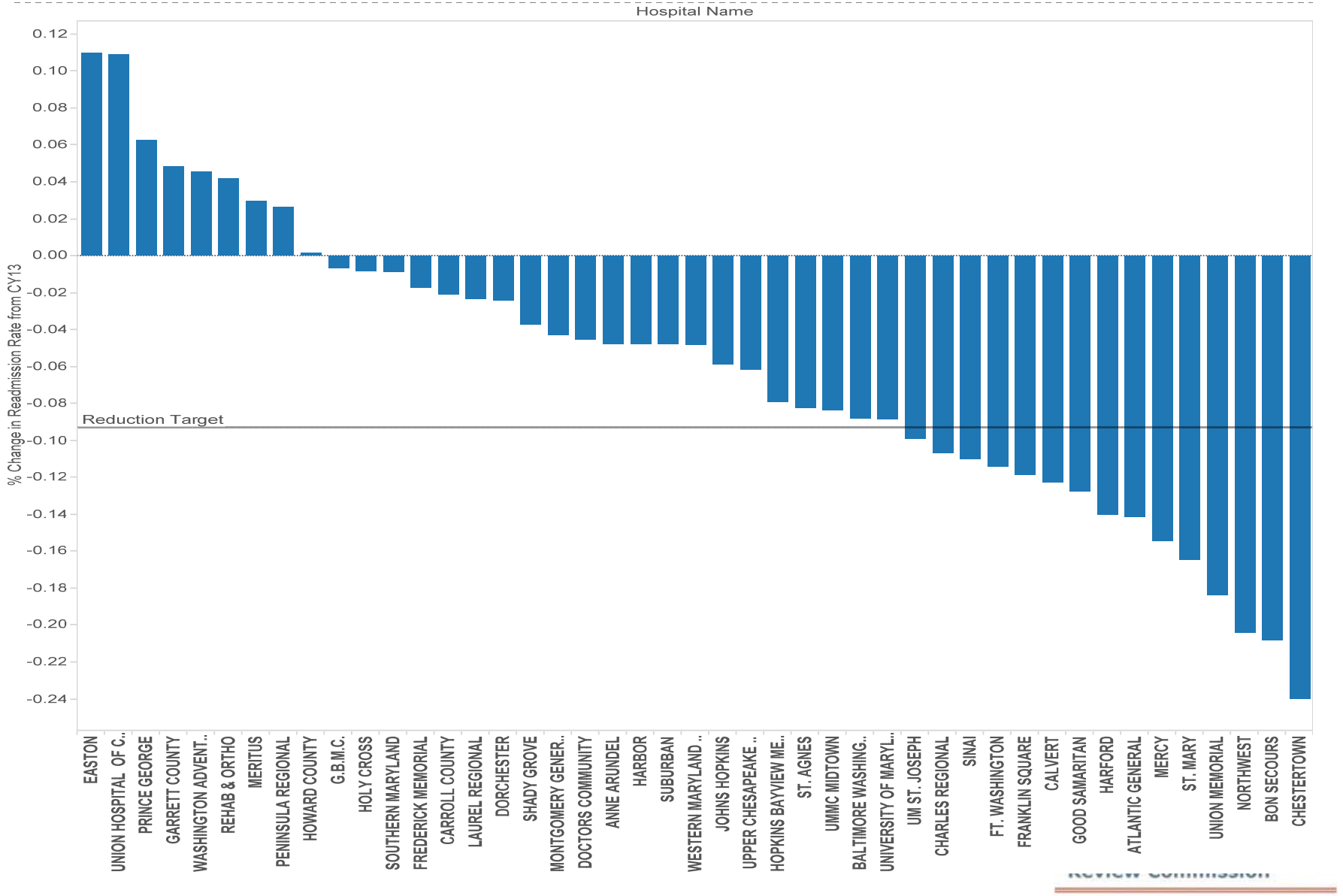
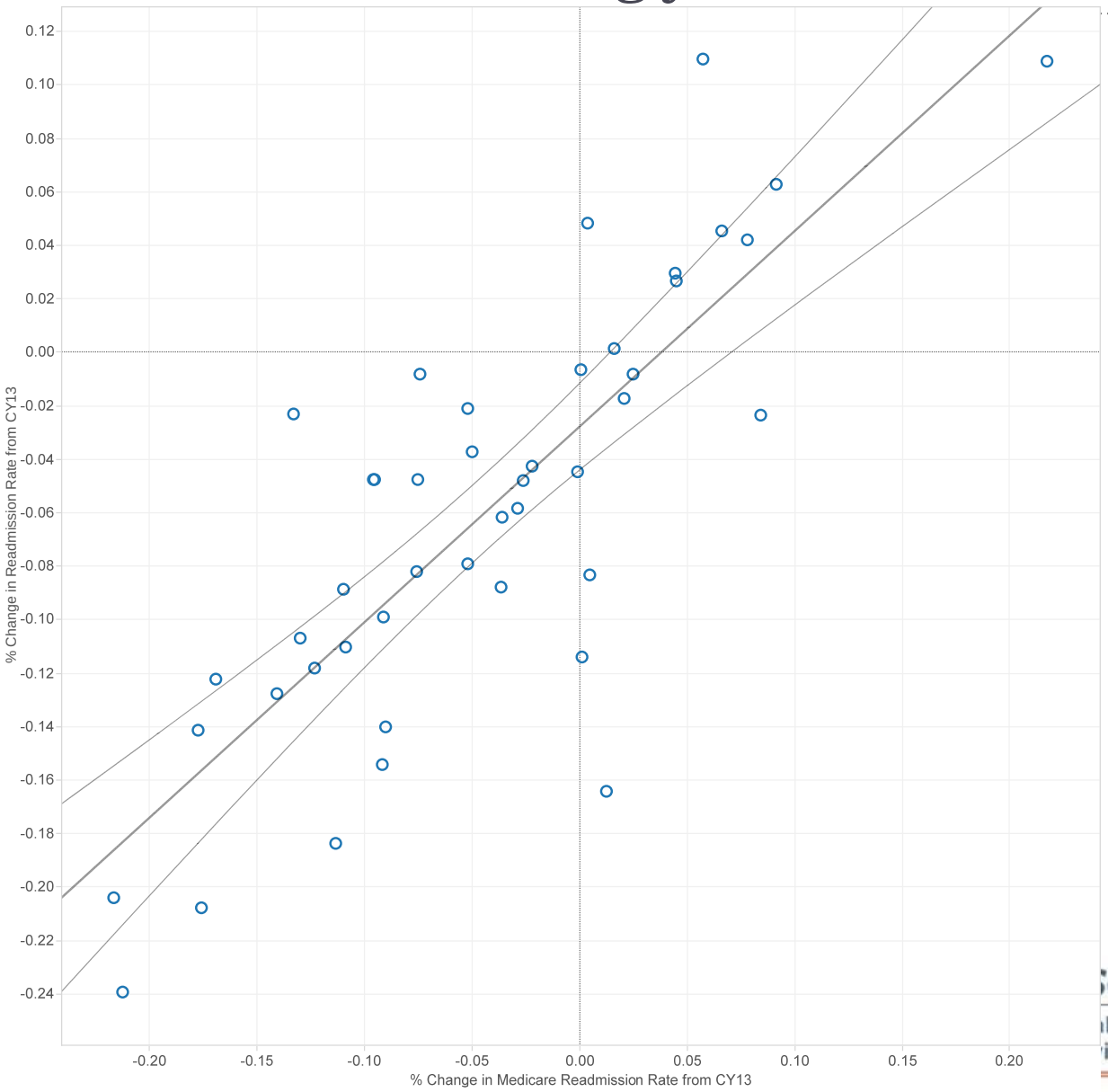
1/3 of the hospitals are meeting the reduction target, 1/4 have increases in their readmission rates (YTD August)



Considerations from FY 2017 Approved Recommendations

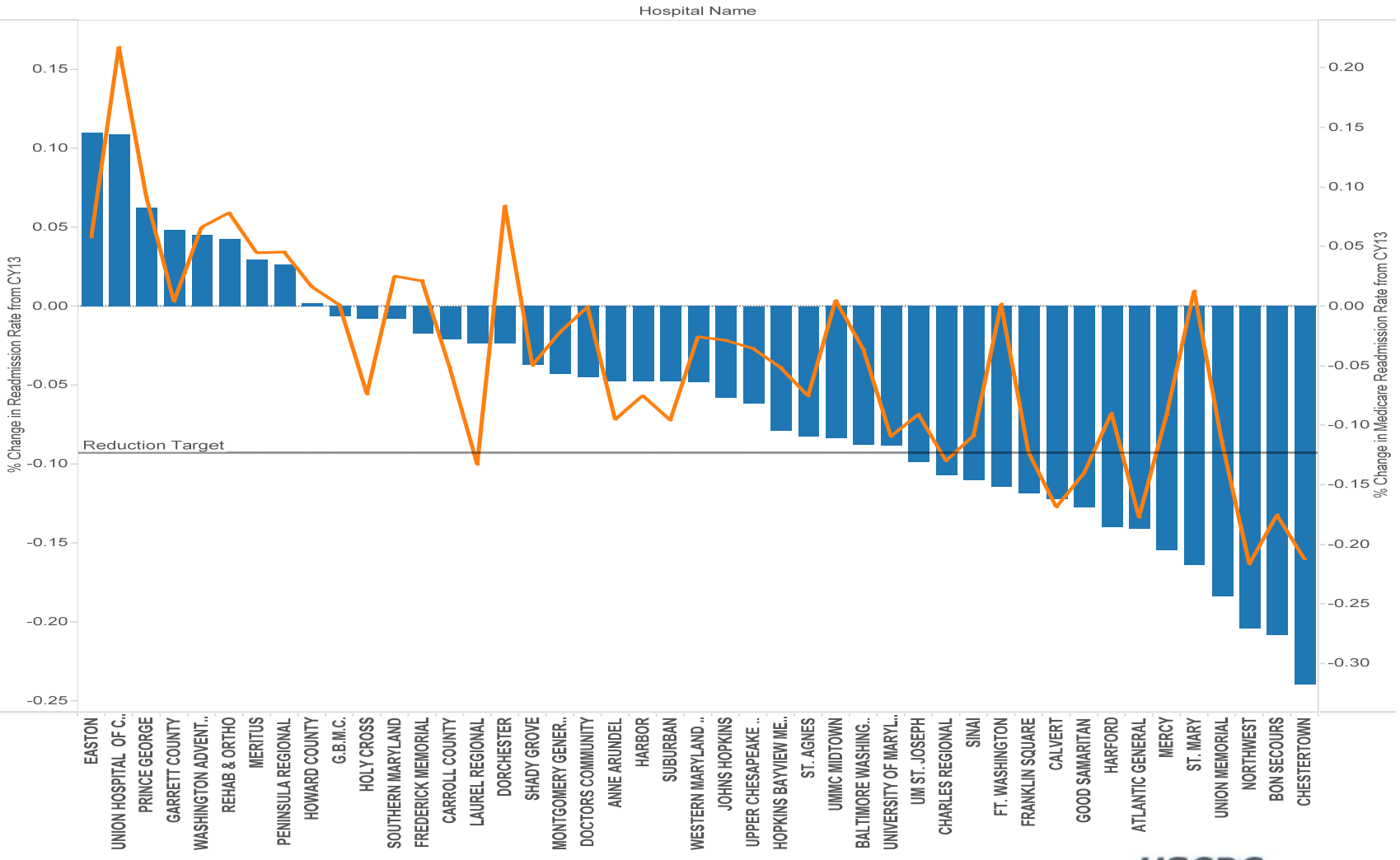
- Continue to set a minimum required reduction benchmark on all-payer basis and re-evaluate the option to move to a Medicare specific performance benchmark for CY2016 performance period.
- Continue to assess the impact of admission reductions, SES/D, all-payer, and Medicare readmission trends and make adjustments to the rewards or penalties if necessary.

Statewide All-Payer and Medicare readmission improvement rates are strongly correlated



Correlation Coefficient=0.80

Hospital Performance on All-Payer and Medicare readmission reductions vary



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Socio-Economic Factors

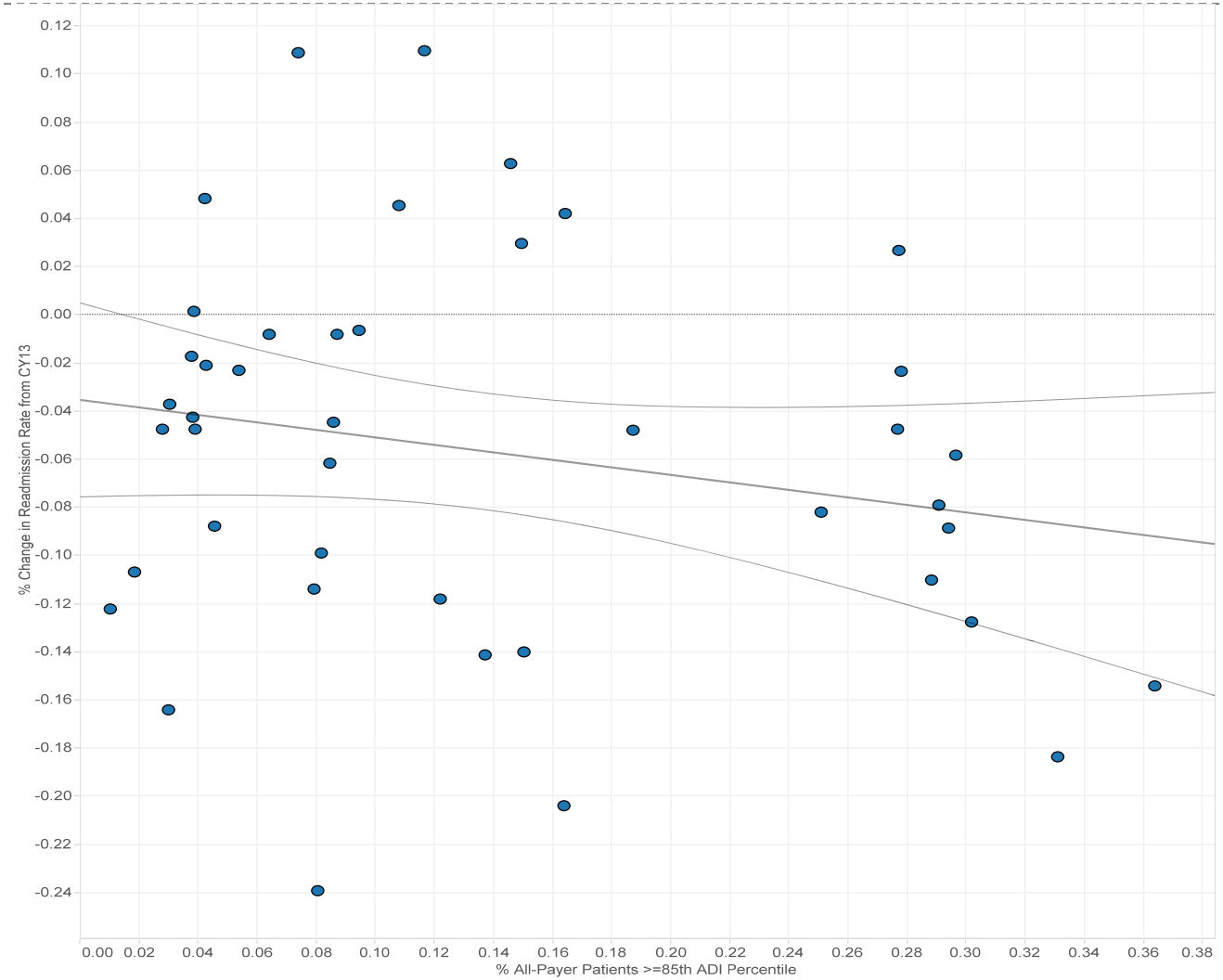
- We appreciate Dr. Amy Kind and Commissioner Dr. Steve Jencks contributions*
- Staff is working on 2013 Area Deprivation Index (ADI) at the block-group (smaller than zip code) level
- Components of ADI include*
  - Education
  - Income
  - Poverty
  - Housing Cost
  - Housing Quality
  - Employment
  - Single-parent Households

*Neighborhood Socioeconomic Disadvantage and 30-Day Rehospitalization: A Retrospective Cohort Study, *Ann Intern Med.* 2014;161(11):765-774. doi:10.7326/M13-2946

ADI and Readmissions

- Initial analysis indicate strong correlation between ADI and Readmission Rates even after controlling for case-mix
- Hospital level analysis are underway
- Preliminary results

Preliminary results show no correlation between ADI and readmission reductions



Correlation Coefficient=-0.30

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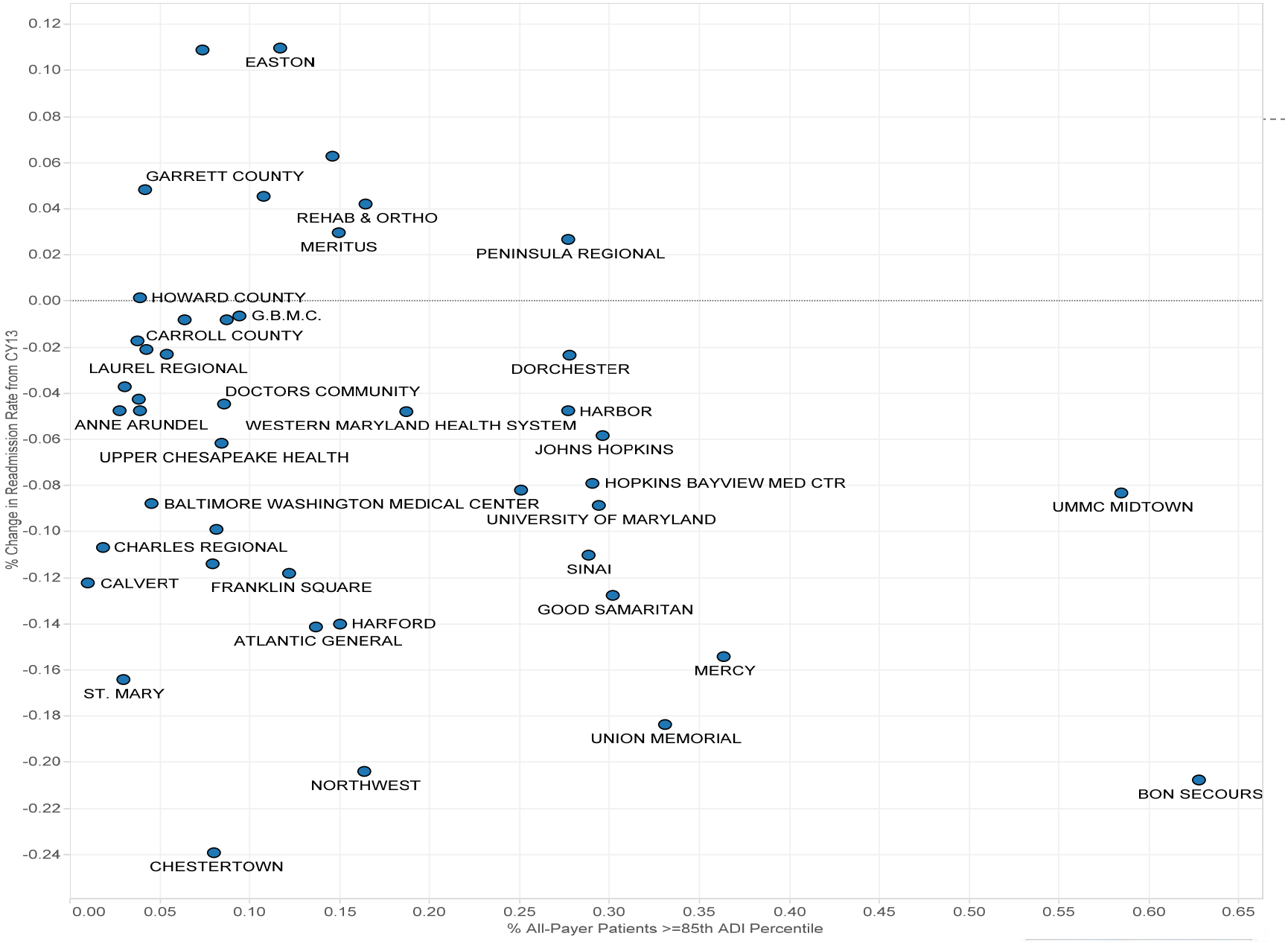
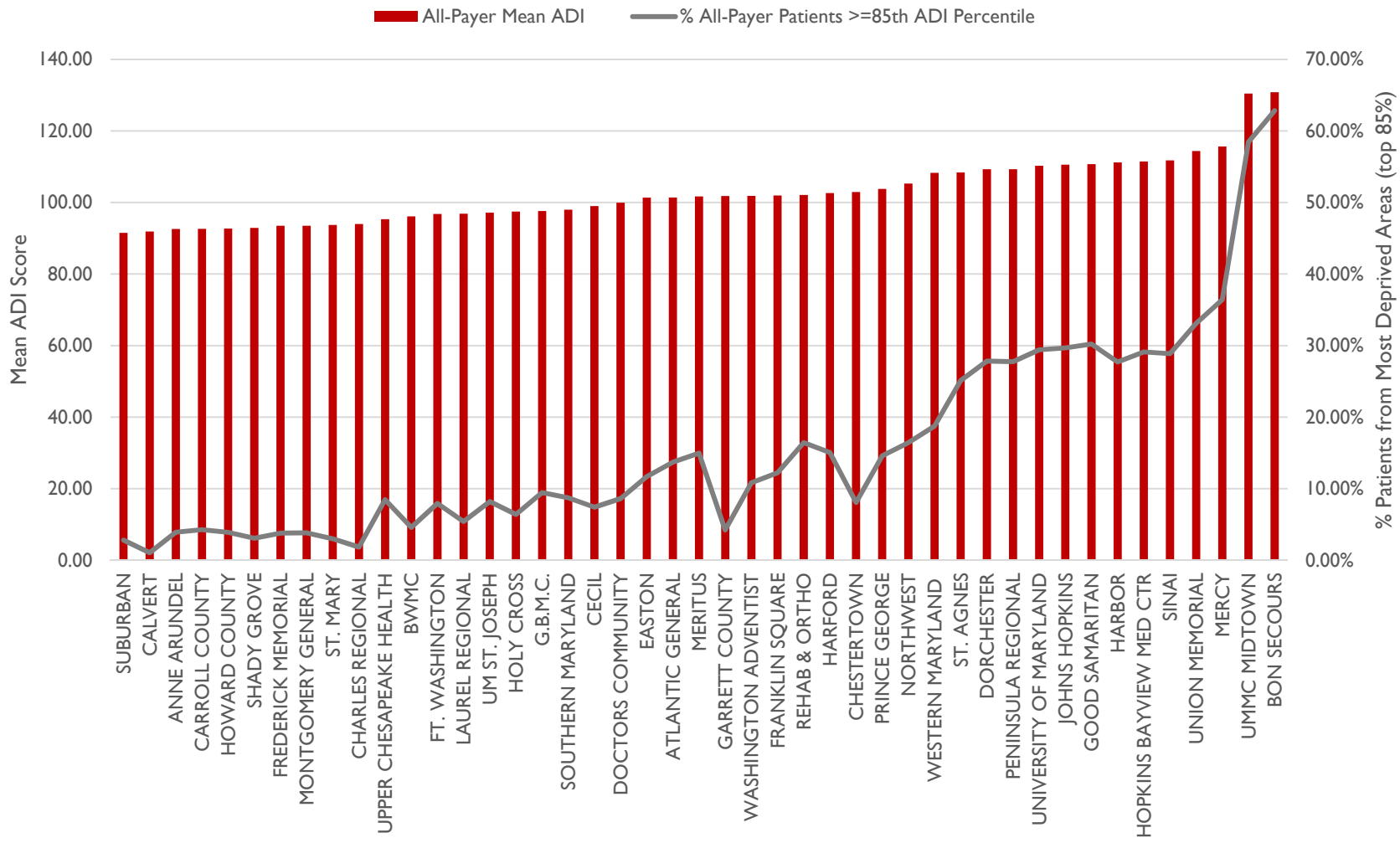

% Change in Readmission Rate from CY13
% All-Payer Patients >=85th ADI Percentile
0.12
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
-0.06
-0.08
-0.10
-0.12
-0.14
-0.16
-0.18
-0.20
-0.22
-0.24
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.40
0.45
0.50
0.55
0.60
0.65
EASTON
GARRETT COUNTY
REHAB & ORTHO
MERITUS
PENINSULA REGIONAL
HOWARD COUNTY
G.B.M.C.
CARROLL COUNTY
LAUREL REGIONAL
DORCHESTER
DOCTORS COMMUNITY
ANNE ARUNDEL
WESTERN MARYLAND HEALTH SYSTEM
HARBOR
JOHNS HOPKINS
UPPER CHESAPEAKE HEALTH
HOPKINS BAYVIEW MED CTR
BALTIMORE WASHINGTON MEDICAL CENTER
UNIVERSITY OF MARYLAND
UMMC MIDTOWN
CHARLES REGIONAL
SINAI
CALVERT
FRANKLIN SQUARE
GOOD SAMARITAN
HARFORD
ATLANTIC GENERAL
MERCY
ST. MARY
UNION MEMORIAL
NORTHWEST
BON SECOURS
CHESTERTOWN

Hospital ADI Distribution



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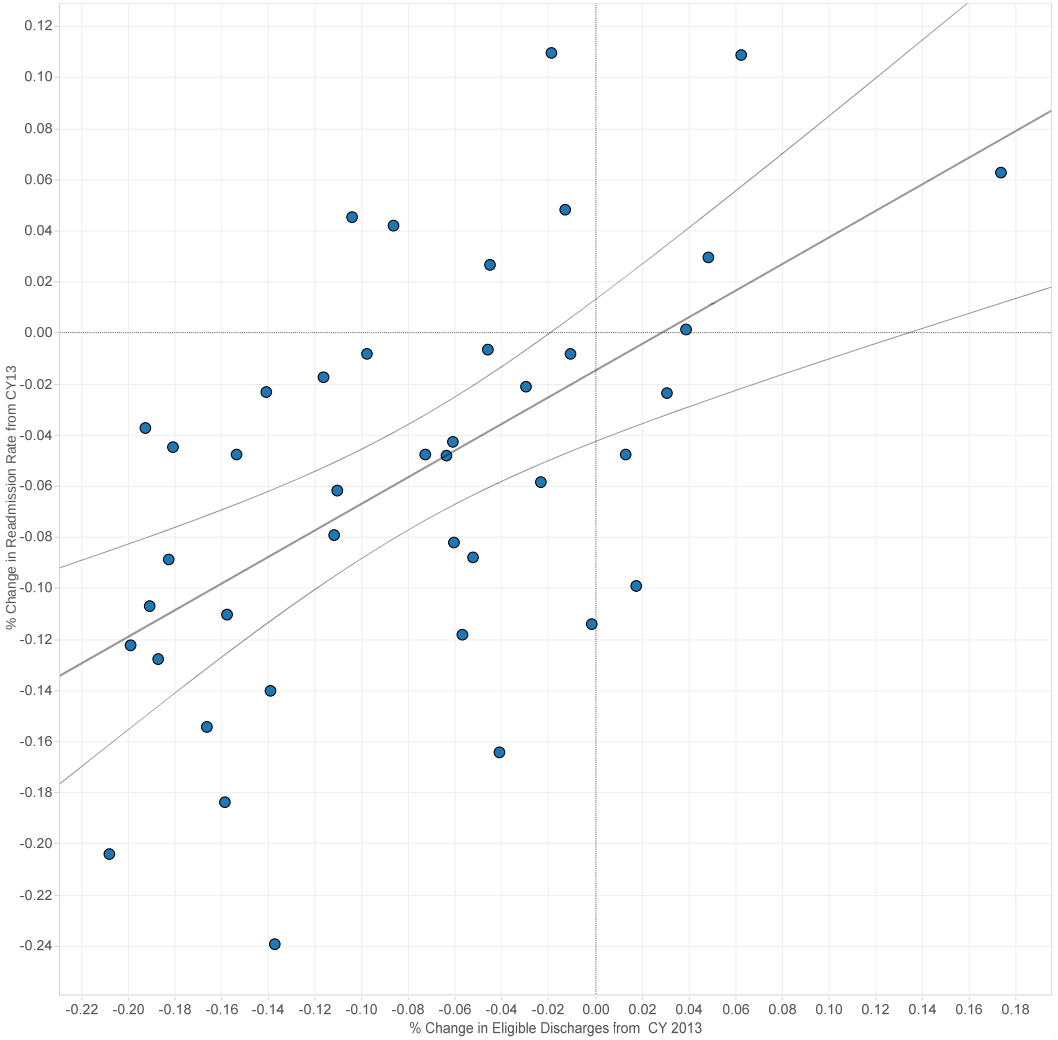
Hospitals with large readmission reductions also have large overall reductions in overall admissions



Correlation Coefficient=0.58

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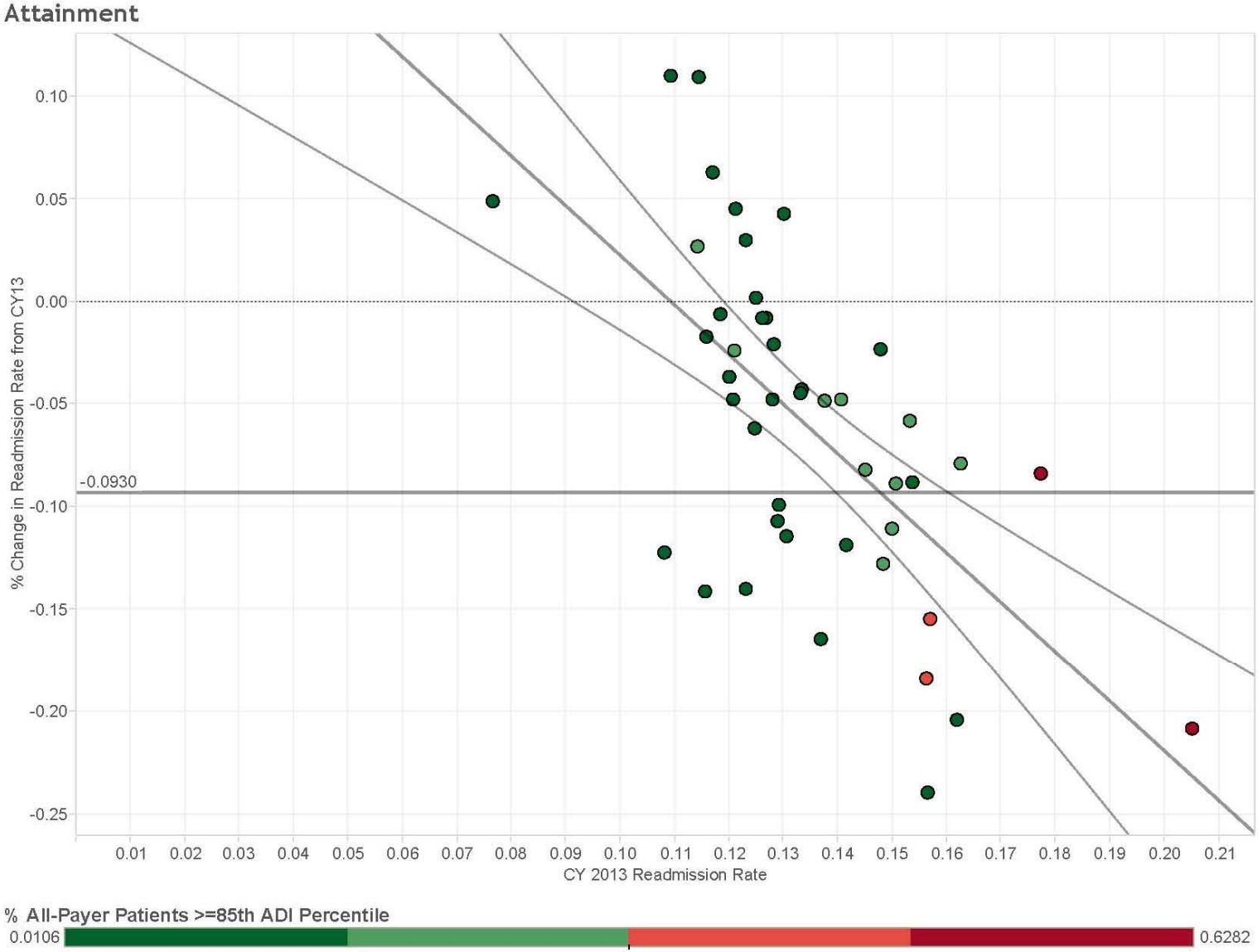
CY 2013 Readmission Rate and Improvement



Aggregate At Risk FY2018 Policy

Medicare vs Maryland Aggregate At Risk

- *Regulated Revenue at risk: [Maryland] must ensure that the aggregate percentage of Regulated Revenue at risk for quality programs administered by the State is equal to or greater than the aggregate percentage of revenue at risk under national Medicare quality programs. Quality programs include, but are not limited to, readmissions, hospital acquired conditions, and value-based purchasing programs.*

Potential at Risk

Potential Risk:

Maryland - Potential Inpatient Revenue at Risk absolute values

% Inpatient Revenue	SFY 2014	SFY 2015	SFY2016	SFY2017
MHAC	2.0%	3.0%	4.0%	*3.0%*
RRIP			0.5%	*2.0%*
QBR	0.50%	0.50%	1.00%	*2.0%*
Shared Savings	0.41%	0.86%	1.35%	*1.35%*
GBR PAU:	0.50%	0.86%	1.10%	*1.10%*
MD Aggregate Maxium At Risk	3.41%	5.22%	7.95%	9.45%

*Italics are estimated numbers based on current policy.

Medicare National - Potential IP revenue at risk absolute values

% IP Rev	FFY 2014	FFY 2015	FFY2016	FFY2017
HAC		1.00%	1.00%	1.00%
Readmits	2.00%	3.00%	3.00%	3.00%
VBP	1.25%	1.50%	1.75%	2.00%
Medicare Aggregate Maxium At Risk	3.25%	5.50%	5.75%	6.00%

Cumulative MD-US Difference	0.16%	-0.12%	2.08%	5.53%

Realized At Risk – FY2016

	MHAC	RRIP	QBR	Shared Savings	PAU	Aggregate
Total/Net	$6,789,180	$9,233,884	$0	-$27,482,838	-$26,900,004	-$38,359,779
Penalty	-$1,080,406	$0	-$12,880,046	-$27,482,838	-$26,900,004	-$68,343,294
Reward	$7,869,585	$9,233,884	$12,880,046	$0	$0	$29,983,515
Potential At Risk (Absolute Numbers)	4.00%	0.50%	1.00%	1.35%	1.10%	7.95%
Maximum Adjustment (Absolute Numbers)	1.00%	0.50%	1.00%	0.46%	1.10%	1.95%
Average Realized Adjustment (Absolute Numbers)	**0.18%**	**0.15%**	**0.30%**	**0.30%**	**0.39%**	**1.62%**

Realized At Risk – FY2017 YTD

	MHAC	RRIP	QBR*	Shared Savings*	PAU*	Aggregate
Total/Net	$26,338,592	-$27,408,083	-$49,821,235	-$27,482,838	-$26,900,004	-$105,273,568
Penalty	$0	-$38,994,508	-$59,307,561	-$27,482,838	-$26,900,004	-$152,684,911
Reward	$26,338,592	$11,586,425	$9,486,327	$0	$0	$47,411,343
Potential At Risk (Absolute Numbers)	3%	2%	2%	1.35%	1.10%	9.45%
Maximum Adjustment (Absolute Numbers)	1.00%	2.00%	2.00%	0.46%	1.10%	3.31%
Average Realized Adjustment (Absolute Numbers)	**0.37%**	**0.71%**	**0.65%**	**0.30%**	**0.39%**	**3.06%**

* Base year scores are used.

FY 2018 Proposed Percent at Risk

	Max Penalty	Max Reward
MHAC Below target	-3.0%	0.0%
MHAC Above Target	-1.0%	1.0%
RRIP	-2.0%	1.0%
QBR	-2.0%	1.0%