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# Performance Measurement Workgroup

11/20/2015

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# Maryland Hospital Acquired Conditions Policy Updates for RY2018

# RY2018 MHAC Update Considerations

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- ▶ MHAC timelines- potential I I0 transition implications
- ▶ PPC reliability and validity testing preliminary results
- ▶ PPC rate calculations-
  - ▶ Merging PPCs
  - ▶ Suspending PPCs
  - ▶ PPC listings for tiers
  - ▶ PPC tier weighting
- ▶ Revenue at Risk
- ▶ Statewide target

# Ry2018 MHAC Update Considerations

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Potentially Preventable Complication (PPC) Rates in Maryland- State FY2013-FY2015						
	PPC RATES (FY2014 NORMS, vs. 32)			Annual Change (FY2014 Norms, vs. 32)		Cumulative Improvement
	FY13	FY14	FY15	FY13-FY14	FY14-FY15	FY13-FY15
TOTAL NUMBER OF COMPLICATIONS	27,939	21,059	17,028	-24.6%	-19.1%	-39.1%
CASE-MIX ADJUSTED COMPLICATION RATE	1.25	0.97	0.8	-22.4%	-17.5%	-36.0%

# Tier 1 PPC Considerations for FY 2018

PPC	PPC Description	# Observed PPCs Base Period	FY 2017 Tier	MHA FY 2018 Tier 1 Rec	Low Reliability <sup>a</sup>	Low Stability <sup>b</sup>	Mathematica FY 2018 Prelim Rec
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation	937	1	Y			Keep in Tier 1
4	Acute Pulmonary Edema and Respiratory Failure with	595	1	Y			Keep in Tier 1
5	Pneumonia & Other Lung Infections	645	1	Y			Keep in Tier 1
6	Aspiration Pneumonia	458	1	Y			Keep in Tier 1
7	Pulmonary Embolism	302	1	Y			Keep in Tier 1
9	Shock	486	1				Keep in Tier 1
14	Ventricular Fibrillation/Cardiac Arrest	836	1	Y			Keep in Tier 1
16	Venous Thrombosis	216	1				Keep in Tier 1
28	In-Hospital Trauma and Fractures	103	1			Y	Remove from Tier 1
31*	Decubitus Ulcer	71	1			Y	Remove from Tier 1
35	Septicemia & Severe Infections	515	1	Y			Keep in Tier 1
37	Post-Operative Infection & Deep Wound Disruption Without	341	1	Y			Keep in Tier 1
38	Post-Operative Wound Infection & Deep Wound Disruption with Procedure	20	1		Y	Y	Remove from Tier 1

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# Tier 1 PPC Considerations for FY 2018

PPC	PPC Description	# Observed PPCs Base Period	FY 2017 Tier	MHA FY 2018 Tier 1 Rec	Low Reliability <sup>a</sup>	Low Stability <sup>b</sup>	Mathematica FY 2018 Prelim Rec
40	Post-Operative Hemorrhage & Hematoma without Hemorrhage Control Procedure or I&D Proc	953	1	Y			Keep in Tier 1
42	Accidental Puncture/Laceration During Invasive Procedure	398	1				Keep in Tier 1
49	Iatrogenic Pneumothrax	107	1				Keep in Tier 1
54	Infections due to Central Venous Catheters	90	1				Keep in Tier 1
65	Urinary Tract Infection without Catheter	964	1	Y			Keep in Tier 1
66	Catheter-Related Urinary Tract Infection	102	1				Keep in Tier 1
27	Post-Hemorrhagic & Other Acute Anemia with Transfusion	394	2	Y			Move to Tier 1
41	Post-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or I&D Proc	398	2	Y			Move to Tier 1
21	Clostridium Difficile Colitis	633	3	Y			Move to Tier 1
55	Obstetrical Hemorrhage without Transfusion	840	3	Y			Move to Tier 1
56	Obstetrical Hemorrhage with Transfusion	422	3	Y			Move to Tier 1

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# Readmission Reduction Incentive Policy Updates for RY2018

# RY2018 RRIP Update Considerations

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- ▶ Potential measure updates (e.g., planned admissions, transfer logic)
- ▶ Incorporating attainment levels to the program
- ▶ Medicare vs. Non-Medicare readmission rates
- ▶ Incorporation of Socio-economic and other factors to the program
- ▶ Statewide and hospital-specific target
- ▶ Payment adjustment structure and amounts (Scaling)



# Readmission Measure Changes

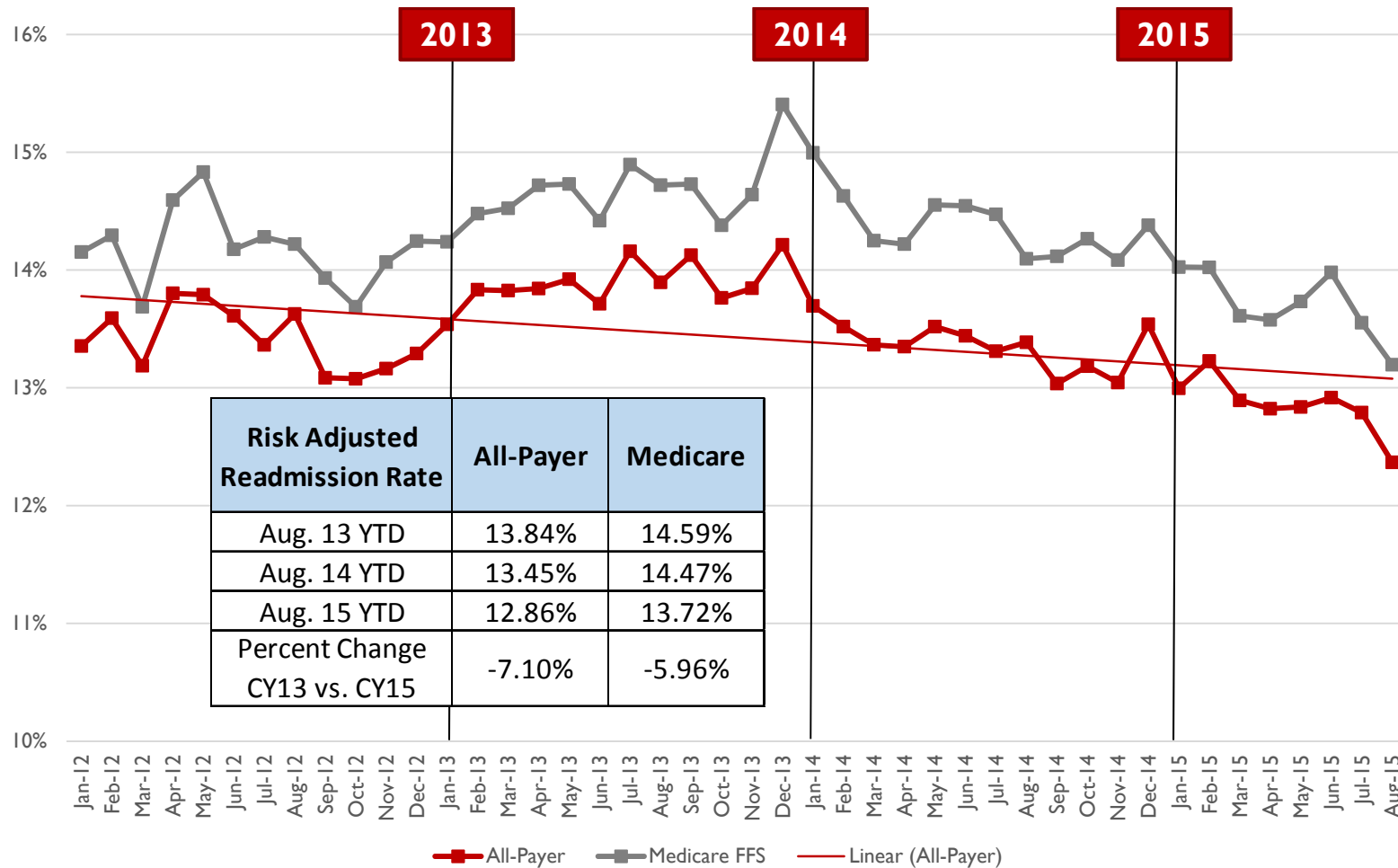
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## ▶ Revise Transfer Logic

Hospital	Dx	Day	Current Transfer Logic	Proposed Transfer Logic
Same	Diff	Next	Readmission	Readmission
Same	Same	Next	Readmission	Readmission
Same	Diff	Same	Transfer	Readmission
Same	Same	Same	Transfer	Transfer
Diff	Diff	Next	Readmission	Transfer
Diff	Same	Next	Readmission	Transfer
Diff	Diff	Same	Transfer	Transfer
Diff	Same	Same	Transfer	Transfer

## ▶ Modify Planned Admission logic for ICD-10

# Monthly Risk-Adjusted Readmission Rates

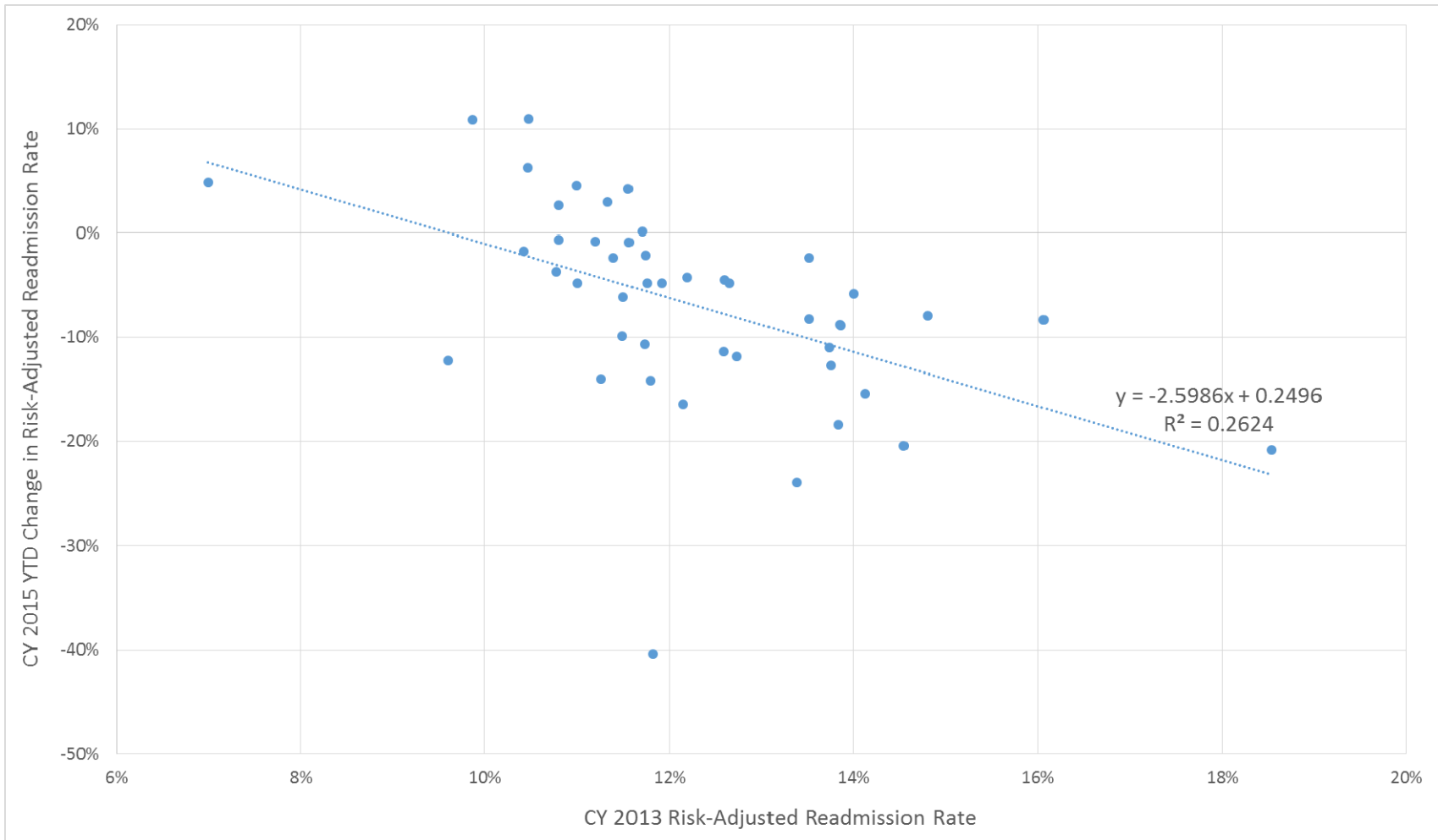


# Hospital Results

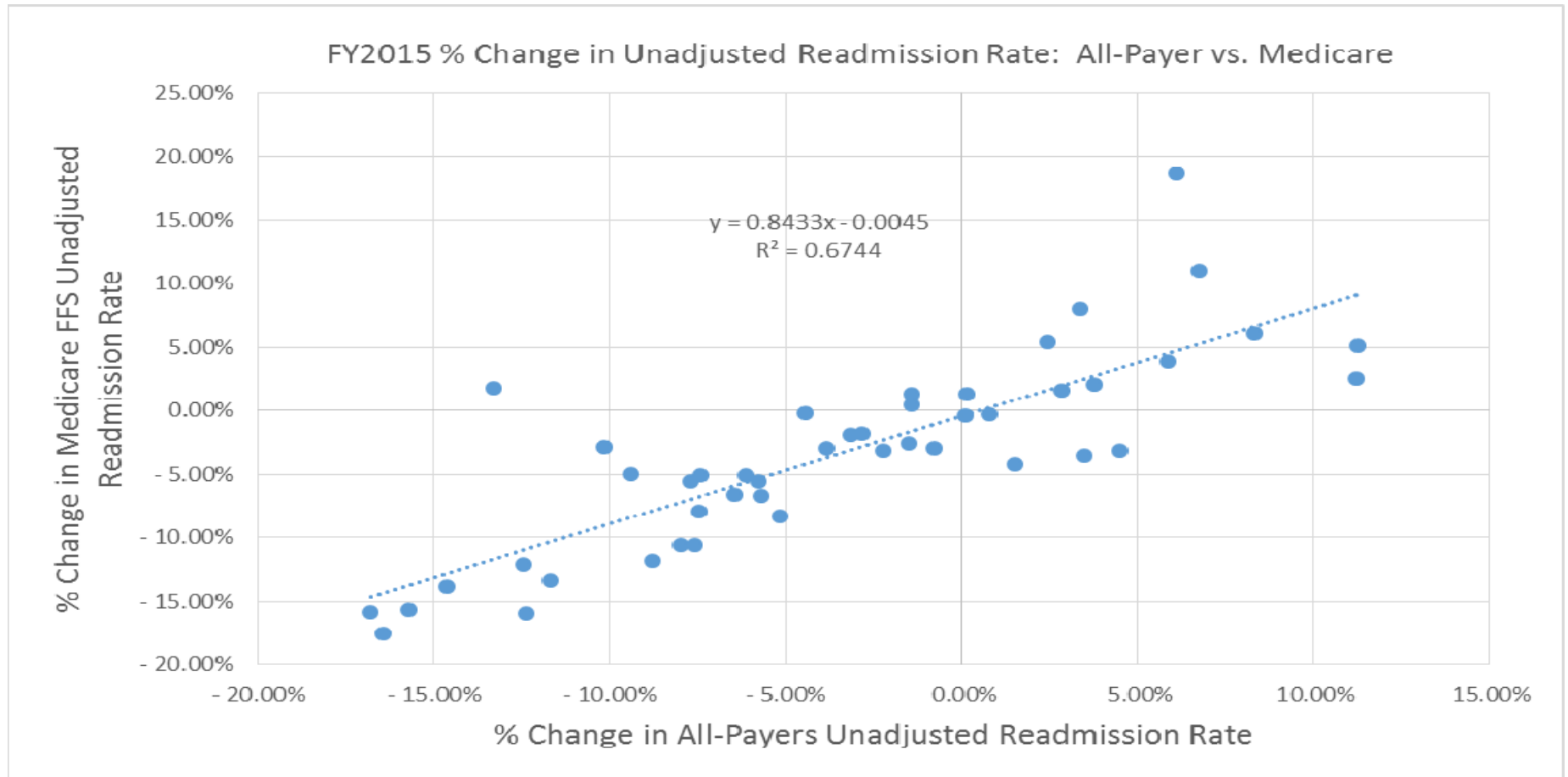
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- ▶ See excel

# Correlation between CY2013 Case-Mix Adj. Readmission Rate and CY2015 YTD Change



# Higher Correlation between All-Payer vs. Medicare Readmission Rates



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# Socio-demographic Adjustments: Area Deprivation Index

# Area Deprivation Index (ADI)

- A validated census-based measure available at the block-group (neighborhood) level, first created in 2003\*
  - ✓ Factor-based index, 17 US Census-based indicators
- Recognized widely in research
- Correlated with multiple health outcomes
  - ✓ Cardiovascular mortality
  - ✓ Cancer mortality
  - ✓ Cervical cancer prevalence

# Updating the ADI

- US Census switched from long-form to short-form in 2010
- American Community Survey (ACS)
  - ✓ Takes place of the US Census 'long-form'
  - ✓ Random sample of US population
  - ✓ Annually updated by US Census Bureau
  - ✓ 5-Year ACS data available at block-group level
- 2009-2013 ACS employed to create 2013 ADI
  - ✓ Singh's standard methodology, Factor scores updated to 2013
  - ✓ Primary change = incidence of households without plumbing was much smaller than in 2000 US Census



# ADI 2013 Components

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- Education
- Income
- Poverty
- Housing Cost
- Housing Quality
- Employment
- Single-parent Households

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# Maryland ADI Maps

Preliminary

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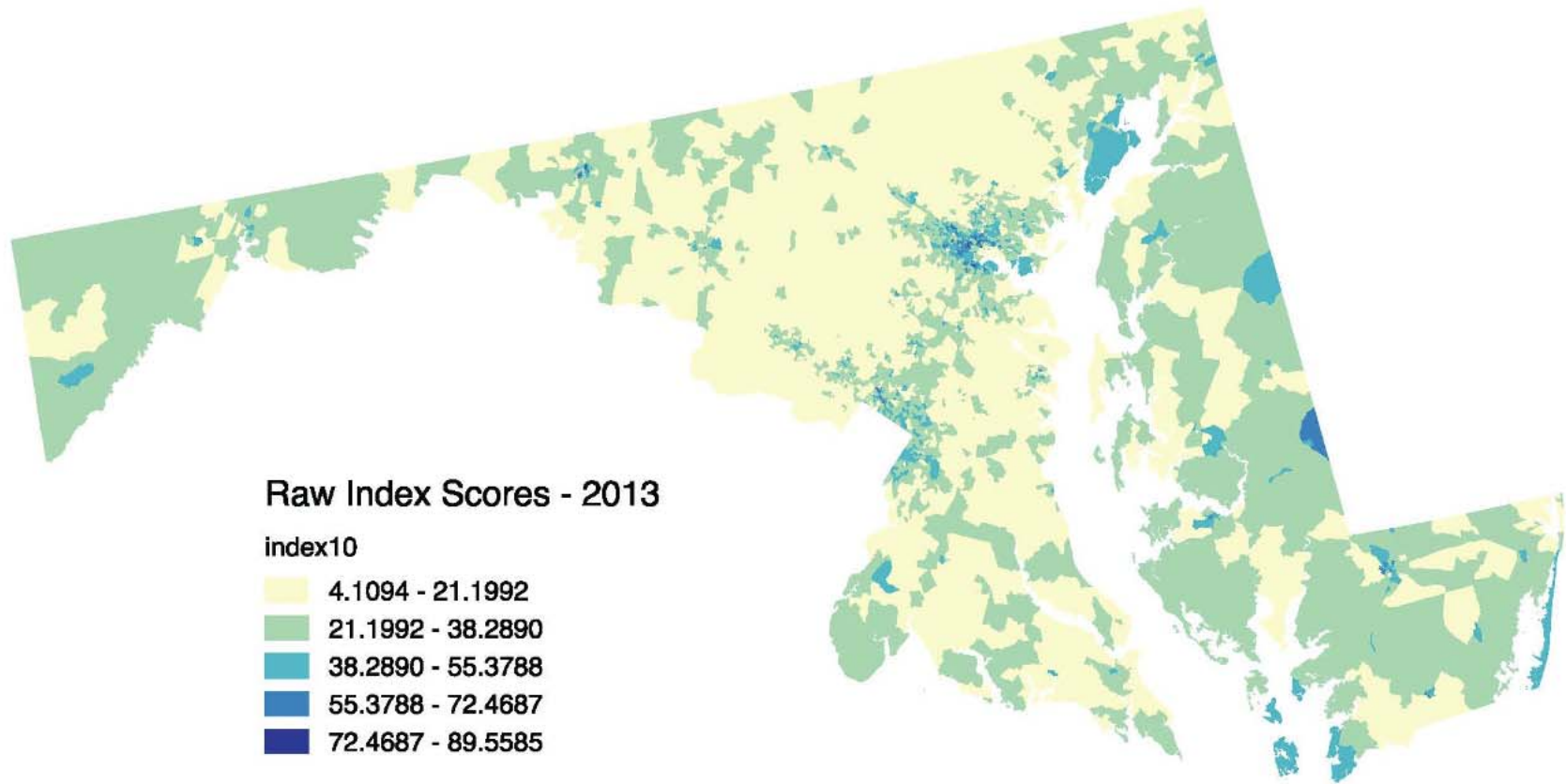
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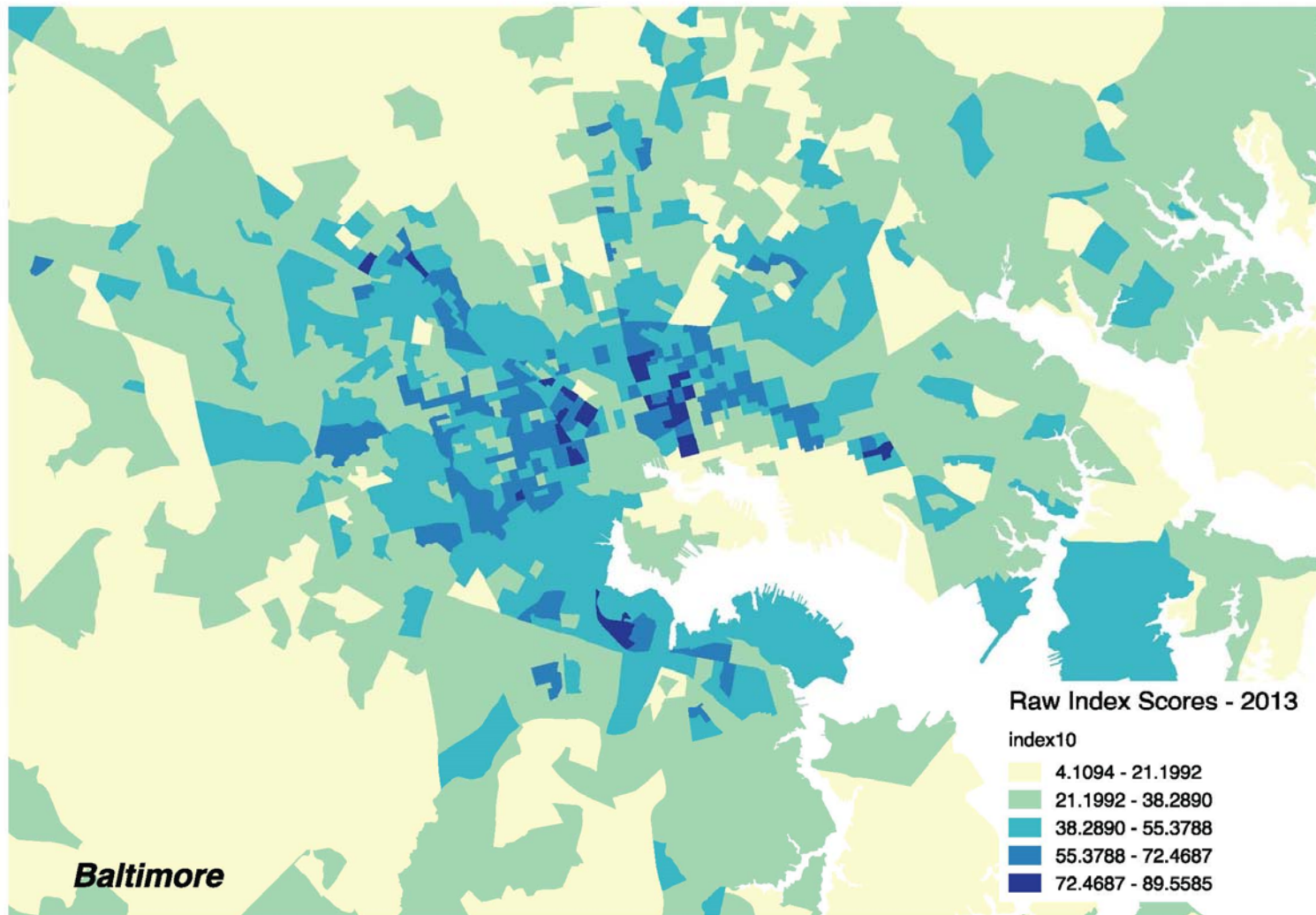
# Maryland

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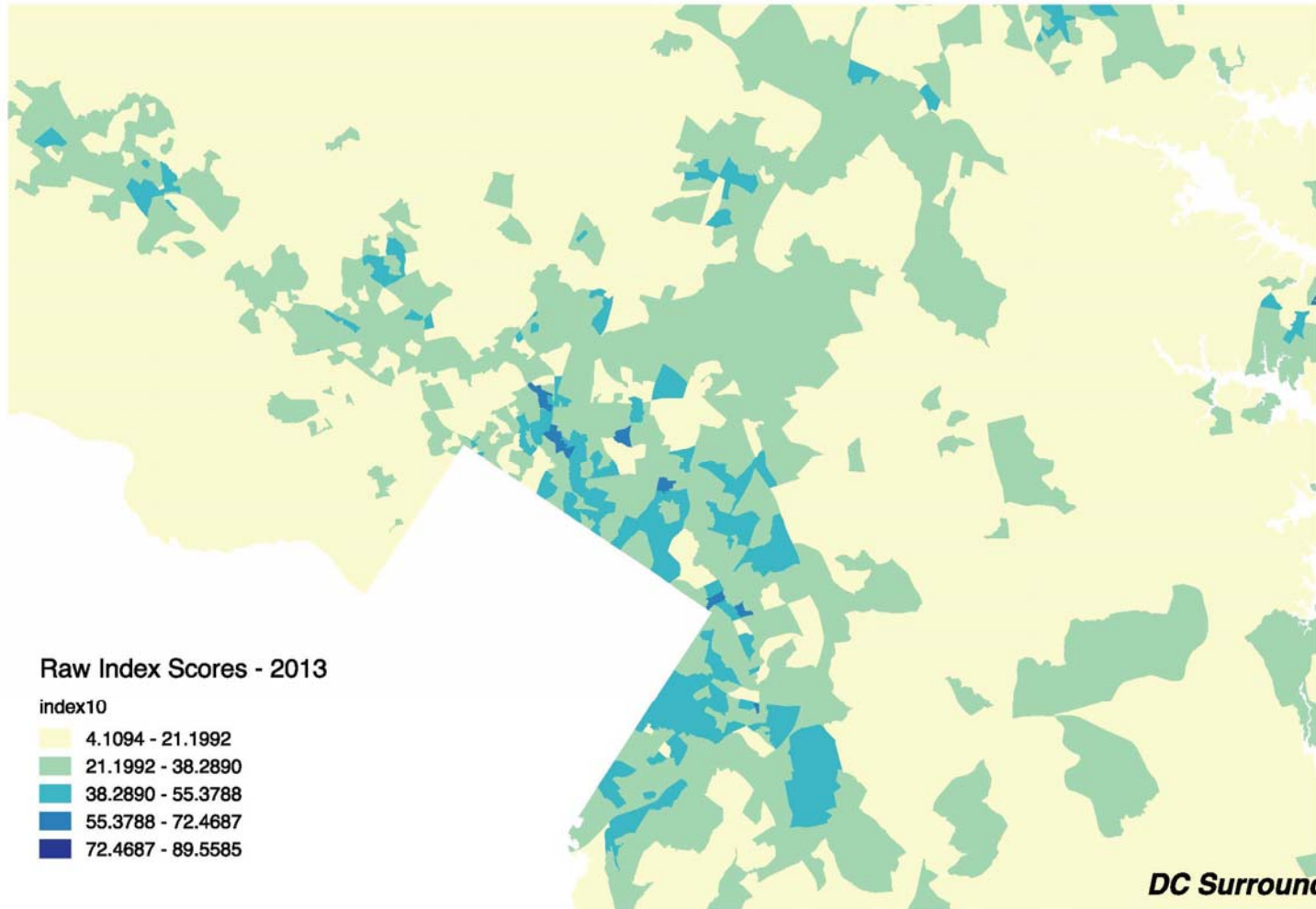
# Baltimore City

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# DC Suburbs

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# ADI And Readmissions

Revised 11/16/2015

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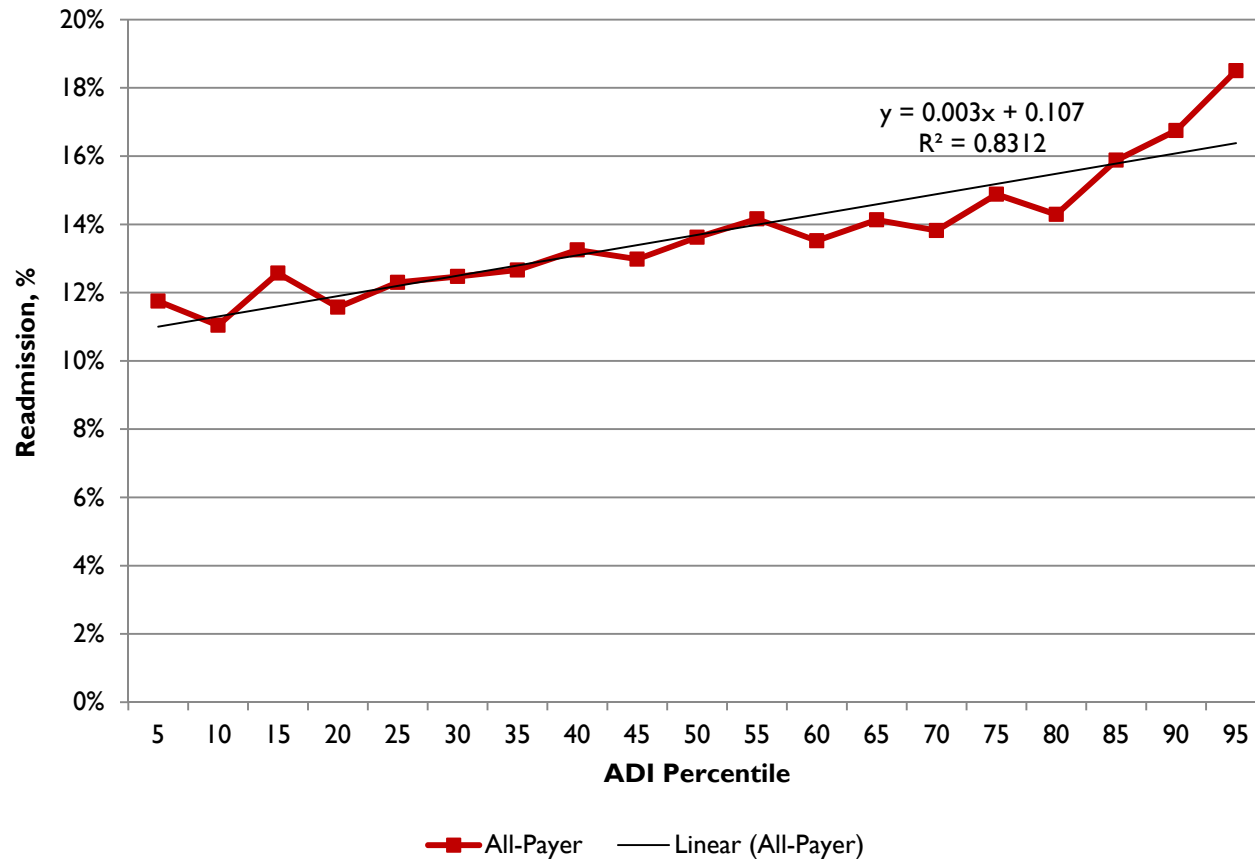
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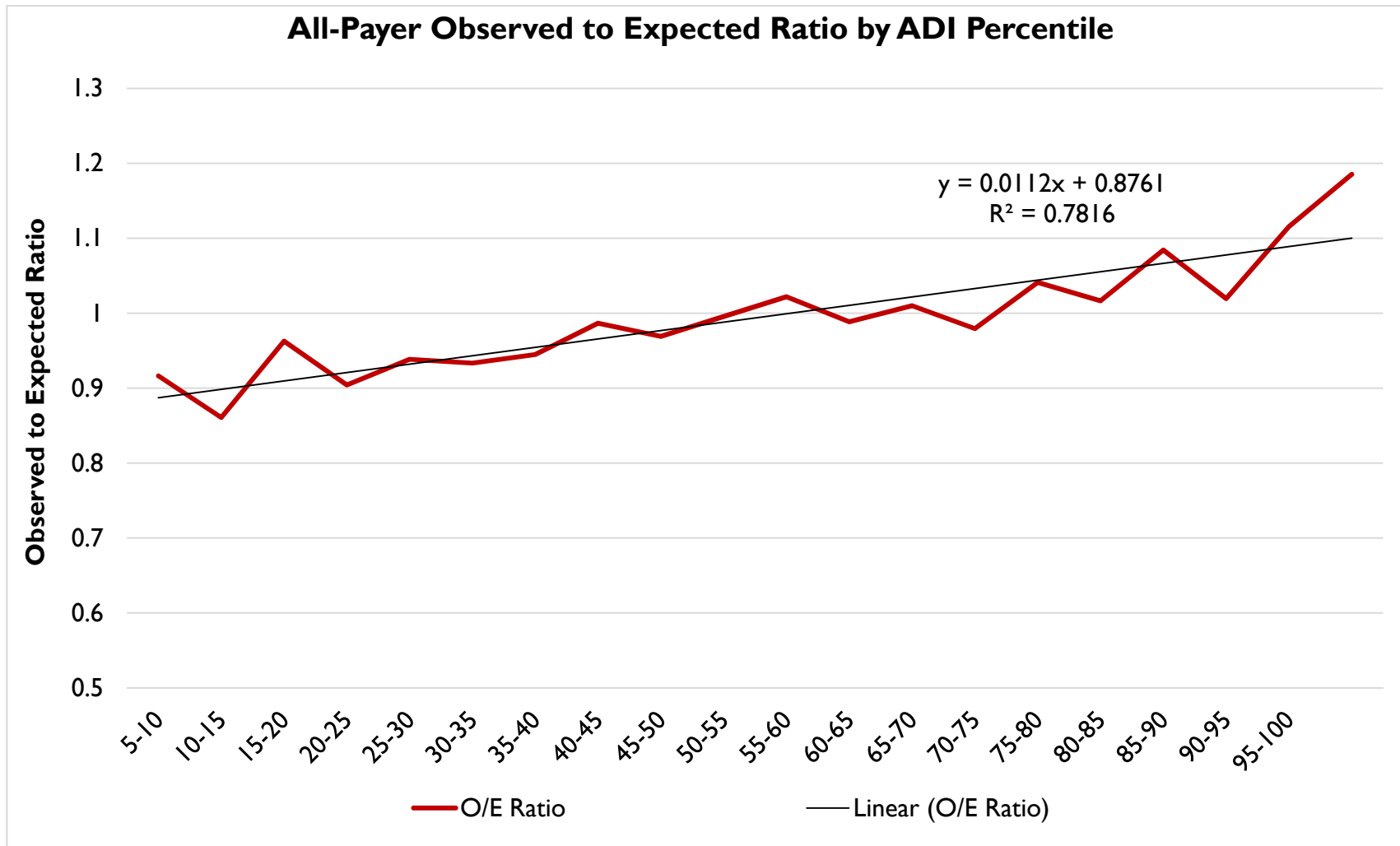
# All-Payer: Unadjusted Readmission Rate

**Unadjusted Relationship between ADI and Readmissions**



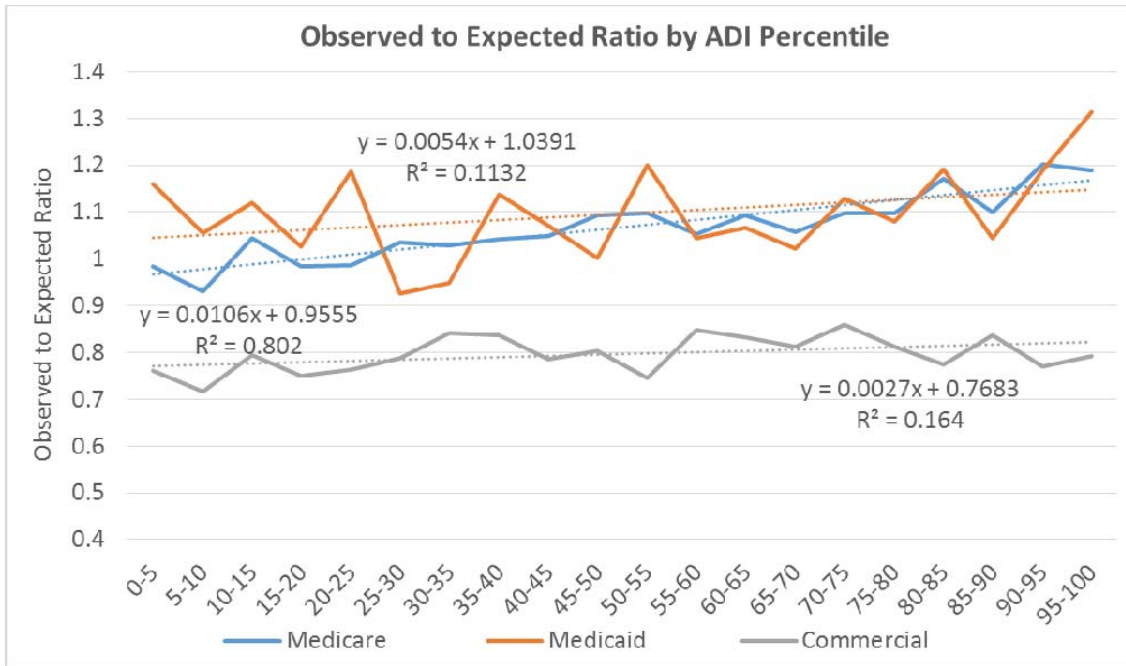
ADI Percentile	Total Number of Discharges	Discharge Distribution
0-5	14,488	2.90%
5-10	17,612	3.53%
10-15	22,899	4.59%
15-20	19,908	3.99%
20-25	23,685	4.75%
25-30	23,795	4.77%
30-35	23,648	4.74%
35-40	22,594	4.53%
40-45	27,097	5.43%
45-50	27,152	5.44%
50-55	27,703	5.55%
55-60	27,747	5.56%
60-65	30,582	6.13%
65-70	26,117	5.24%
70-75	31,666	6.35%
75-80	27,822	5.58%
80-85	22,885	4.59%
85-90	24,417	4.89%
90-95	24,735	4.96%
95-100	32,281	6.47%

# All-Payer: Observed/Expected Ratios



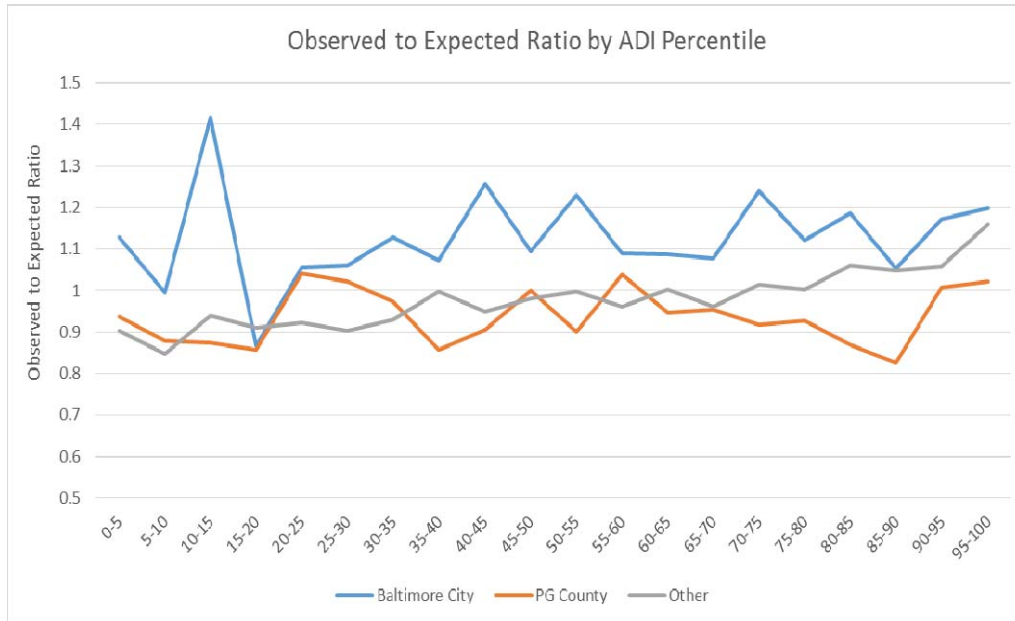


# By Payer (Medicare, Medicaid, Commercial)



ADI Percentile	Medicare Discharge Distribution	Medicaid Discharge Distribution	Commercial Discharge Distribution
0-5	3.16%	0.90%	4.25%
5-10	3.61%	1.53%	5.06%
10-15	4.78%	2.49%	6.10%
15-20	4.01%	2.13%	5.44%
20-25	4.85%	2.83%	6.12%
25-30	4.95%	2.62%	6.18%
30-35	4.83%	2.94%	6.00%
35-40	4.70%	2.87%	5.59%
40-45	5.51%	4.17%	6.26%
45-50	5.83%	4.48%	5.63%
50-55	5.84%	5.43%	5.26%
55-60	5.58%	5.50%	5.54%
60-65	6.16%	6.84%	5.50%
65-70	5.67%	4.87%	4.81%
70-75	6.62%	7.30%	5.23%
75-80	5.25%	7.14%	4.71%
80-85	4.37%	6.26%	3.61%
85-90	4.67%	6.80%	3.57%
90-95	4.49%	8.44%	2.83%
95-100	5.12%	14.44%	2.31%

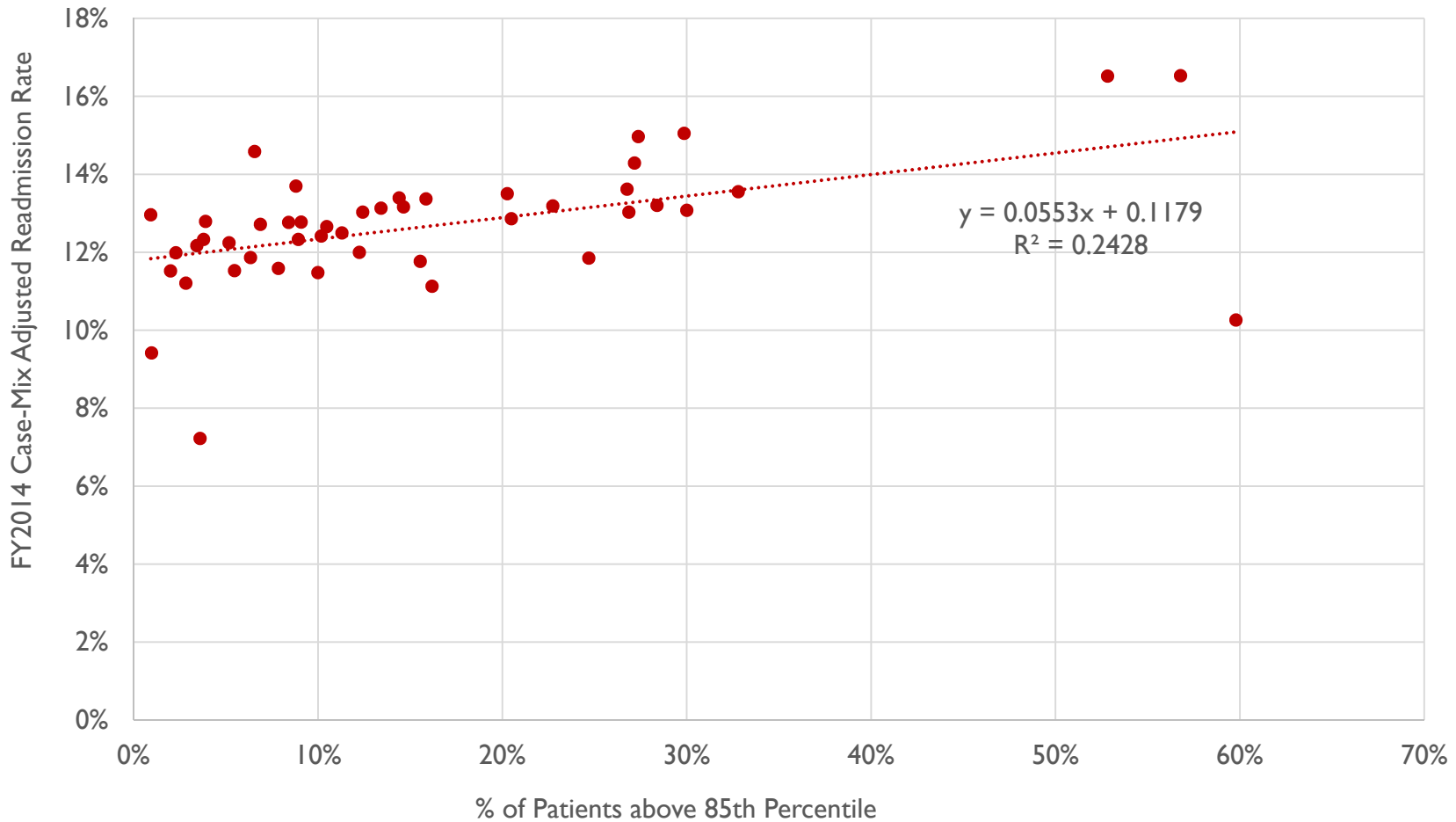
# By Region (Baltimore City, PG County, Other)



ADI Percentile	Baltimore City Discharge Distribution	Other Regions Discharge Distribution	PG County Discharge Distribution
0-5	0.87%	3.82%	0.47%
5-10	1.43%	4.23%	2.64%
10-15	1.10%	5.82%	2.70%
15-20	0.79%	5.02%	2.89%
20-25	0.70%	5.89%	4.37%
25-30	1.35%	5.32%	7.22%
30-35	1.29%	5.59%	5.29%
35-40	1.60%	5.20%	5.29%
40-45	2.31%	5.97%	7.41%
45-50	3.12%	5.96%	6.15%
50-55	3.57%	6.21%	4.77%
55-60	3.96%	5.99%	5.58%
60-65	4.79%	6.42%	6.59%
65-70	4.27%	5.59%	4.62%
70-75	4.77%	6.92%	5.37%
75-80	6.29%	4.69%	10.17%
80-85	9.12%	3.15%	6.01%
85-90	9.25%	3.44%	6.77%
90-95	13.76%	2.72%	4.08%
95-100	25.68%	2.03%	1.61%

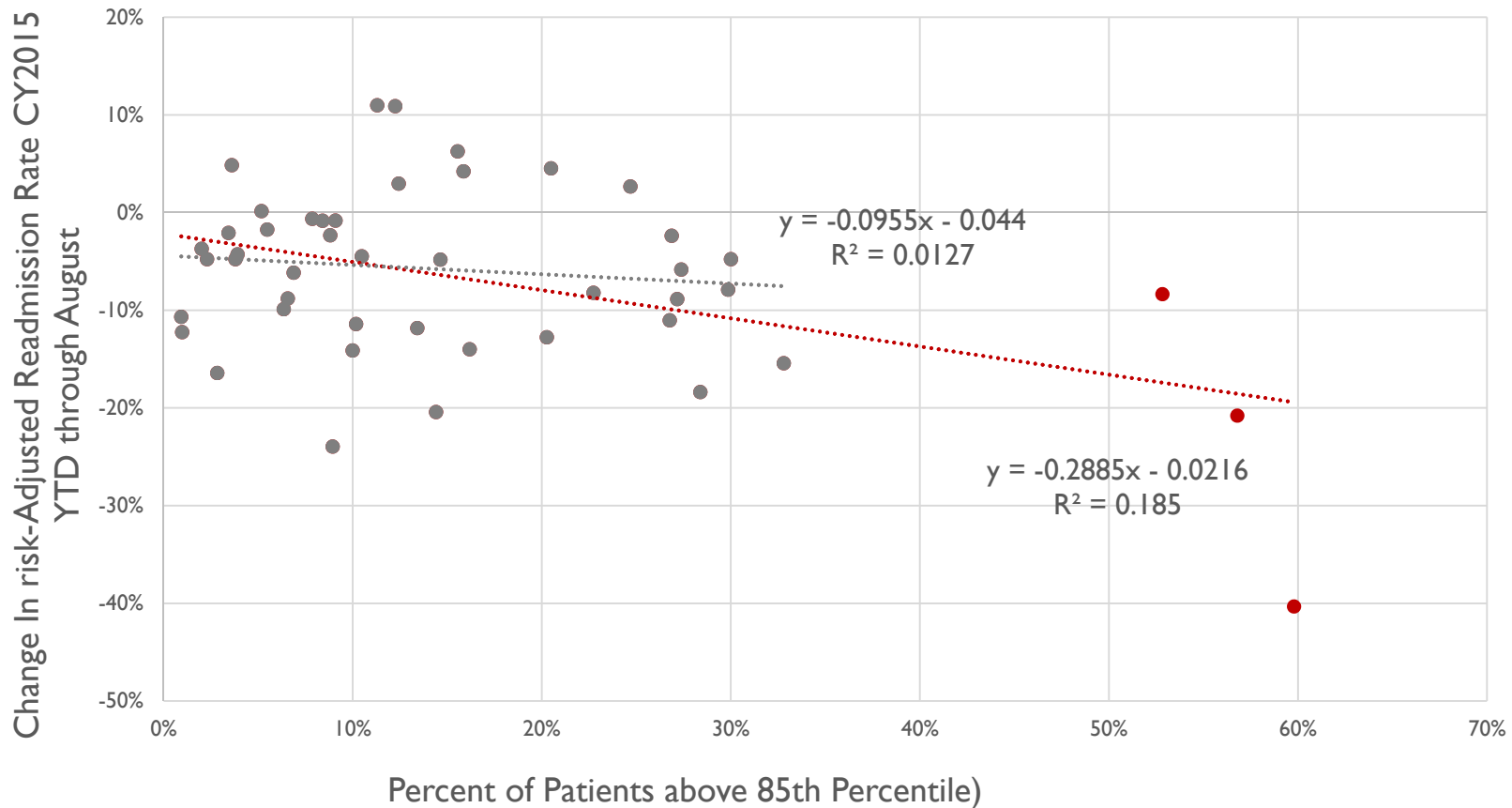
# Correlation b/t Case-Mix Adjusted Readmissions and % Disadvantaged

Case-Mix Adjusted Readmission Rate vs. % Patients above 85th Percentile



# Correlation b/t Change in Case-Mix Adjusted Readmissions and % Disadvantaged

Change in Case-Mix Adjusted Readmission Rate vs. % Patients above 85th Percentile: CY2013 to CY2015 YTD



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# Ry2018 Readmission Target

# CMMI Medicare Target Calculation

<b>CMMI Interim Measure IV</b>						
		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	16.68%		18.60%		11.51%
CY2012	L2	16.16%	-3.10%	17.82%	-4.20%	10.24%
CY2013	L3	15.78%	-2.34%	17.08%	-4.14%	8.21%
CY2014	L4	15.90%	0.73%	16.98%	-0.58%	6.79%
CY 2015 YTD June		15.75%	-0.83%	16.47%	-3.72%	4.61%
CY 2015 Projected		15.77%	-0.83%	16.35%	-3.72%	3.69%
CY 2015 Target				16.57%	-2.41%	5.09%
Targets for Future Years						
CY2016	L5	15.77%	-0.83%	16.16%	-1.18%	2.46%
CY2017	L6	15.64%	-0.83%	15.83%	-2.02%	1.23%
CY2018	L7	15.51%	-0.83%	15.51%	-2.03%	0.00%
Annual Additional Reduction Required to Close the Gap for CY2015						1.70%
Annual Additional Reduction Required to Close the Gap for CY2016						1.23%
CY 2015 Estimates comparison						
		Estimated	Actual			
National CY2014 Improvement rate		-0.35%	0.73%			
MD CY2014 Improvement Rate		-0.80%	-0.58%			
National CY2015 Improvement rate		-1.34%	-0.83%			
MD CY 2015 Required Improvement		-3.90%	-2.41%			
MD CY 2015 Actual Rate			-3.72%			

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# Aggregate at Risk

# Comparison of Aggregate At-Risk

<b>Potential Risk:</b>					
Maryland - Potential Inpatient Revenue at Risk absolute values					
<b>% Inpatient Revenue</b>	<b>SFY 2014</b>	<b>SFY 2015</b>	<b>SFY2016</b>	<b>SFY2017 (Estimated)</b>	<b>SFY2018 (Proposed/ estimated)</b>
MHAC	2.0%	3.0%	4.0%	3.0%	3.0%
RRIP			0.5%	2.0%	2.0%
QBR	0.50%	0.50%	1.00%	2.00%	2.0%
Shared Savings	0.41%	0.86%	0.73%	0.73%	0.73%
GBR PAU:	<i>0.50%</i>	<i>0.86%</i>	<i>0.91%</i>	<i>0.91%</i>	<i>0.91%</i>
<b>MD Aggregate Maxium At Risk</b>	<b>3.41%</b>	<b>5.22%</b>	<b>7.14%</b>	<b>8.64%</b>	<b>8.64%</b>
*Italics are estimated numbers based on current policy.					
Medicare National - Potential IP revenue at risk absolute values					
<b>% IP Rev</b>	<b>FFY 2014</b>	<b>FFY 2015</b>	<b>FFY2016</b>	<b>FFY2017</b>	<b>2018</b>
HAC		1.00%	1.00%	1.00%	1.00%
Readmits	2.00%	3.00%	3.00%	3.00%	3.00%
VBP	1.25%	1.50%	1.75%	2.00%	2.00%
<b>Medicare Aggregate Maxium At Risk</b>	<b>3.25%</b>	<b>5.50%</b>	<b>5.75%</b>	<b>6.00%</b>	<b>6.00%</b>
<b>Cumulative MD-US Difference</b>	<b>0.16%</b>	<b>-0.28%</b>	<b>1.39%</b>	<b>2.64%</b>	<b>2.64%</b>