

MIPS HWR Measure Submission: Figures and Tables

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Figure 1. MIPS HWR: Logic Model

The MIPS HWR measure attributed to MIPS-eligible clinician groups is an adaptation of a publicly reported measure attributed to hospitals (a version of which, the Hybrid HWR measure, is going through CBE endorsement in this same cycle; CBE #2879e). The goal of the clinician-group measure (MIPS HWR) is to improve patient outcomes by providing patients and clinicians with information about clinician-group level, risk-standardized readmission rates of unplanned, all-cause readmission after admission for any eligible condition within 30 days of hospital discharge.

Complex and critical aspects of hospital care, such as communication between providers, prevention of, and response to, complications, patient safety and coordinated transitions to the outpatient environment, all contribute to patient outcomes. This readmission measure was developed to identify clinician groups whose performance is better or worse than would be expected based on their patient case-mix, and therefore promote quality improvement and better inform consumers about care quality.

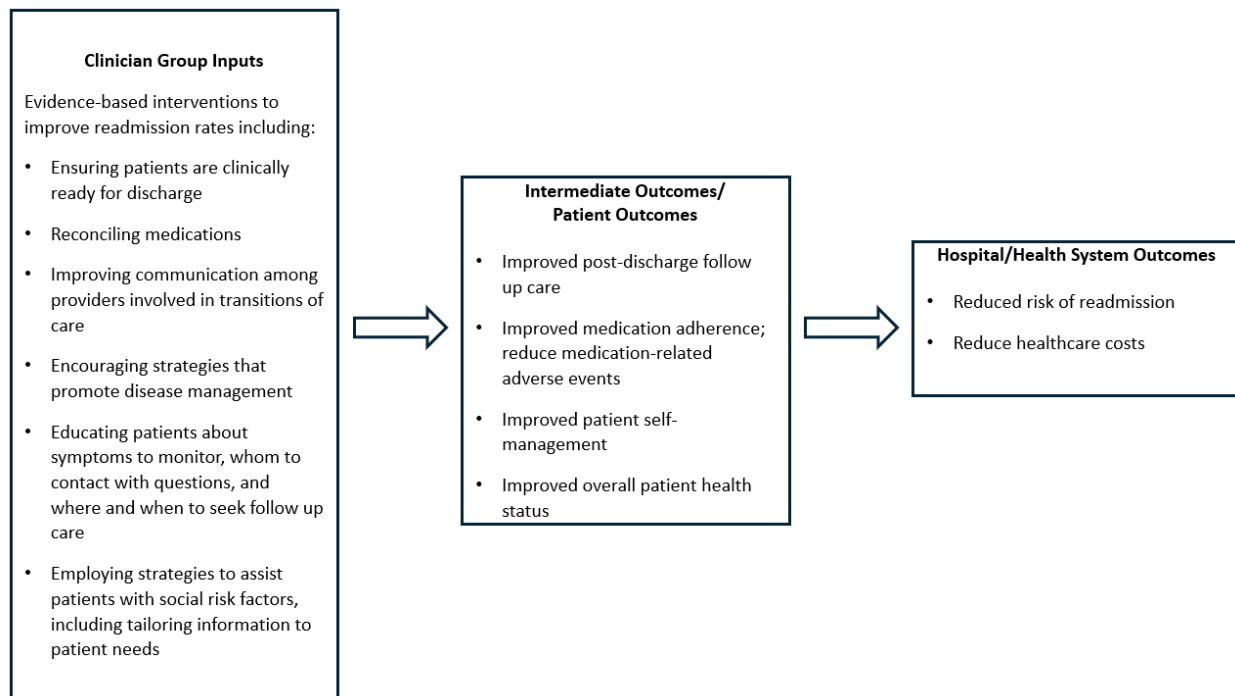


Table 1. MIPS HWR: Distribution of Measure Scores (2024 EM Dataset)

Characteristics	Value
Number of clinician groups	97,027
Mean RSRR (standard deviation)	15.32% (1.02%)
Minimum	8.98%
25th percentile	14.87%
50th percentile	15.17%
75th percentile	15.76%
Maximum	26.80%

Table 2. MIPS HWR: Performance Scores by Decile

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Mean Performance Score	15.32%	8.98%	13.62%	14.56%	14.87%	15.03%	15.13%	15.21%	15.40%	15.77%	16.24%	17.41%	26.80%
N of Entities	97,027		9,702	9,703	9,703	9,703	9,702	9,703	9,703	9,703	9,703	9,702	
N of Persons / Encounters / Episodes	7,827,902		1,743,816	913,352	454,325	259,144	200,014	227,763	936,480	780,991	1,123,538	1,188,479	

Table 3. MIPS HWR Measure: Distribution of Signal-to-Noise Reliability (2024 EM dataset)

Clinician Group Case Volume	Cardio-respiratory Mean (Min-Max)	Cardiovascular Mean (Min-Max)	Medicine Mean (Min-Max)	Neurology Mean (Min-Max)	Surgical Mean (Min-Max)
All providers	0.62 (0.30-0.98)	0.59 (0.25-0.99)	0.48 (0.15-1.00)	0.66 (0.35-0.99)	0.49 (0.10-0.99)
>=200 patients	0.90 (0.82-0.98)	0.88 (0.79-0.99)	0.86 (0.66-1.00)	0.91 (0.85-0.99)	0.84 (0.49-0.99)

Table 4. MIPS HWR: Accountable Entity-Level Reliability Testing Results

Because the MIPS HWR measure has five specialty cohorts, we were not able to use the Battelle-supplied table shown below. Please see Table 3 for the distribution of signal-to-noise reliability at the cohort level for each of the five specialty cohorts.

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Reliability													
Mean Performance Score													
N of Entities													
N of Persons / Encounters / Episodes													

Table 5. MIPS HWR: Association between RARRs and Star Ratings Using Pearson Correlation Coefficients

Comparison Measure	Number of Clinician Groups	Pearson Correlation Coefficient	p-value
Star Rating Category	94,408	-0.093	<0.0001
Star Rating Standardized Readmission Group Scores	96,649	-0.144	<0.0001
Star Rating Standardized Readmission Group Scores (after removing hospital-level HWR from the group)	95,867	-0.119	<0.0001

Figure 2. MIPS HWR: Distribution of Measure Scores Across Star Rating Categories

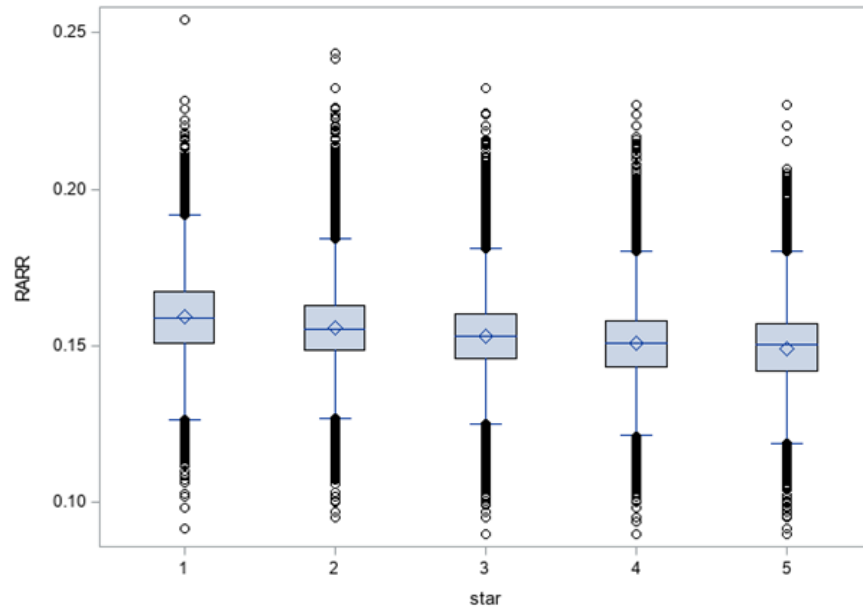


Figure 3. MIPS HWR: Distribution of Measure Scores Across Quintiles of Readmission Scores

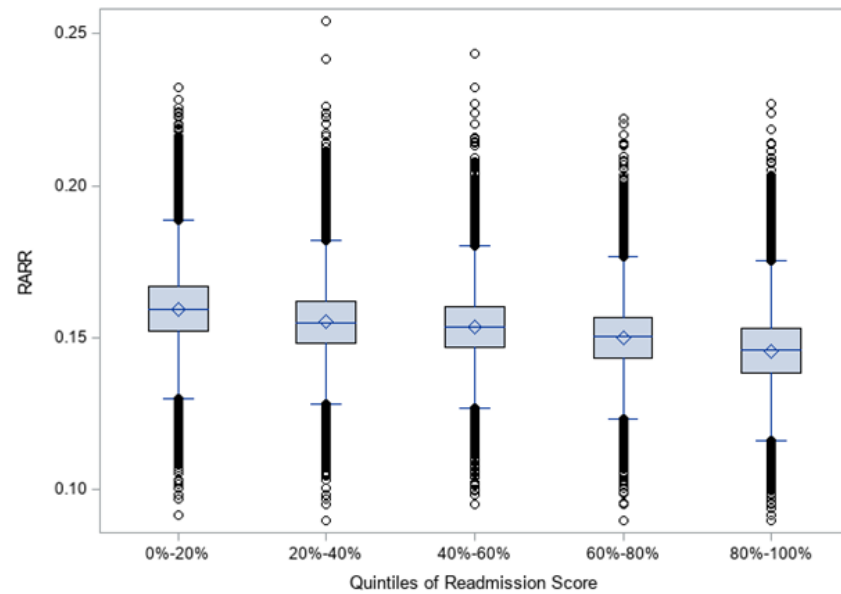


Table 6. MIPS HWR: Proportion of Patients with or without the DE or ADI Variable

Social Risk Variable	Number of Patients	Percent of Total (%)
DE (Yes)	688,829	14.66
DE (No)	4,008,991	85.34
ADI (ADI ≥ 85)	568,913	12.11
ADI (ADI < 85)	4,129,105	87.89

Table 7. MIPS HWR: Proportion of Patients within Each Specialty Cohort with or without the DE Variable

Cohort	Number of Patients with DE	Percent of Patients with DE (%)	Number of Patients <u>without</u> DE	Percent of Patients <u>without</u> DE (%)
Cardiorespiratory	72,157	17.74	334,649	82.26
Cardiovascular	49,529	10.13	439,416	89.87
Medicine	411,935	17.56	1,933,305	82.44
Neurology	49,028	14.93	279,355	85.07
Surgery/Gynecology	106,180	9.41	1,022,266	90.59

Table 8. MIPS HWR: Proportion of Patients Within Each Specialty Cohort With or Without the High ADI Variable

Cohort	Number of Patients with High ADI	Percent of Patients with High ADI (%)	Number of Patients <u>without</u> High ADI	Percent of Patients <u>without</u> High ADI (%)
Cardiorespiratory	59,710	14.68	347,109	85.32
Cardiovascular	58,611	11.99	430,354	88.01
Medicine	292,983	12.49	2,052,349	87.51
Neurology	37,844	11.52	290,544	88.48
Surgery/Gynecology	119,765	10.61	1,008,749	89.39

Table 9. MIPS HWR: Distribution of DE and ADI Variables Among Clinician Groups (n= 97,027 Clinician Groups)

Social Risk Variable	Min (%)	Min (N)	Median (%)	Median (N)	IQR (%)	IQR (N)	Max (%)	Max (N)
DE (Yes)	0	0	5.66	1	25.00	6	100.00	5,911
ADI (ADI ≥ 85)	0	0	0	0	15.79	3	100.00	3,633

Table 10. MIPS HWR: C-statistics (2024 EM Dataset)

Cohort	C-statistic
Cardiorespiratory	0.64
Cardiovascular	0.66
Medicine	0.65
Neurology	0.63
Surgery/Gynecology	0.68

Table 11. MIPS HWR: Predictive Ability (2024 EM Dataset)

Cohort	Predictive Ability (lowest decile%-highest decile %)
Cardiorespiratory	7.9 – 34.5
Cardiovascular	5.1 – 27.9
Medicine	7.6 – 33.2
Neurology	6.1 – 25.2
Surgery/Gynecology	3.0 – 26.2

Table 12. MIPS HWR: Overfitting Statistics for the Five Specialty Cohorts (Datasets A1, A2, B)

Cohort	2015-2016 Development Sample	2015-2016 Validation Sample	2016-2017 Temporal Validation Sample
Cardiorespiratory	0 – 1	-0.023 – 0.988	-0.023 – 1.002
Cardiovascular	0 – 1	-0.015 – 0.997	-0.018 – 1.001
Medicine	0 – 1	0.000 – 1.003	-0.006 – 0.994
Neurology	0 – 1	-0.085 – 0.951	-0.047 – 0.978
Surgery/Gynecology	0 – 1	0.007 – 1.002	0.004 – 1.012

Figure 4. MIPS HWR: Risk Decile Plot (Cardiorespiratory Cohort)

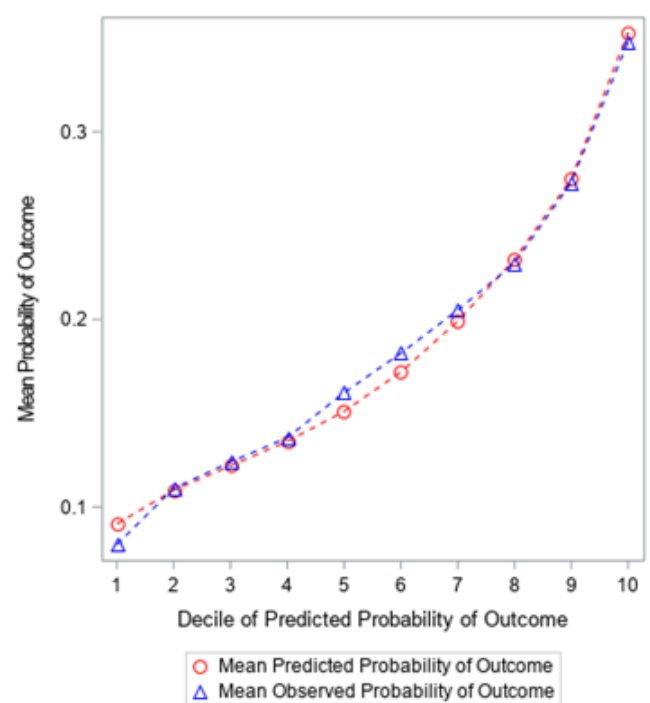


Figure 5. MIPS HWR: Risk Decile Plot (Cardiovascular Cohort)

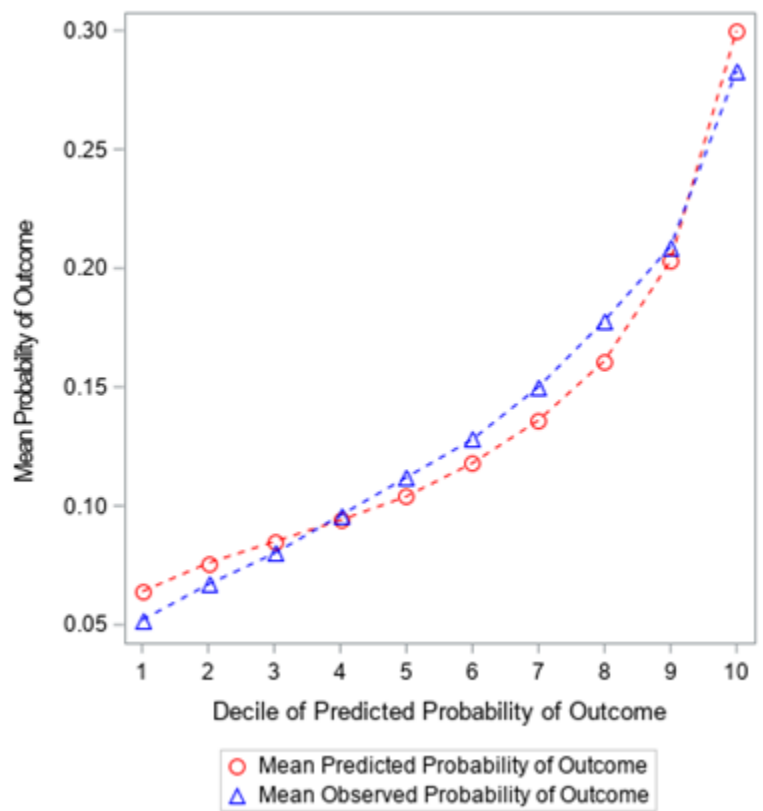


Figure 6: MIPS HWR: Risk Decile Plot (Medicine Cohort)

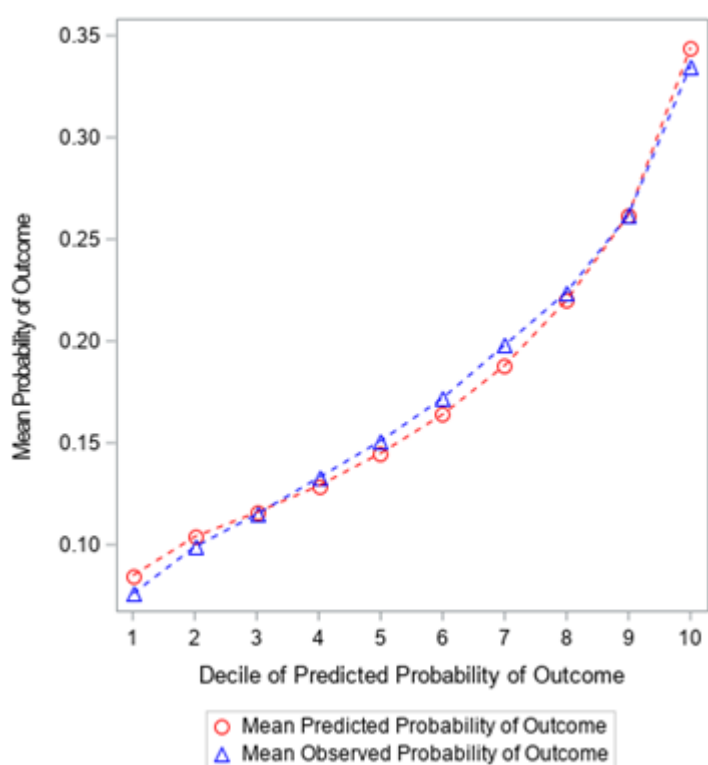


Figure 7. MIPS HWR: Risk Decile Plot (Neurology Cohort)

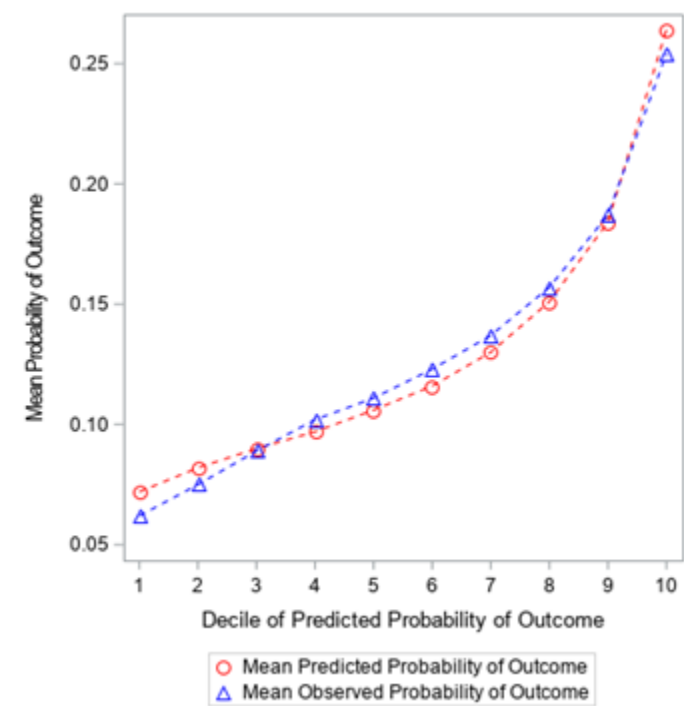


Figure 8. MIPS HWR: Risk Decile Plot (Surgery/Gynecology Cohort)

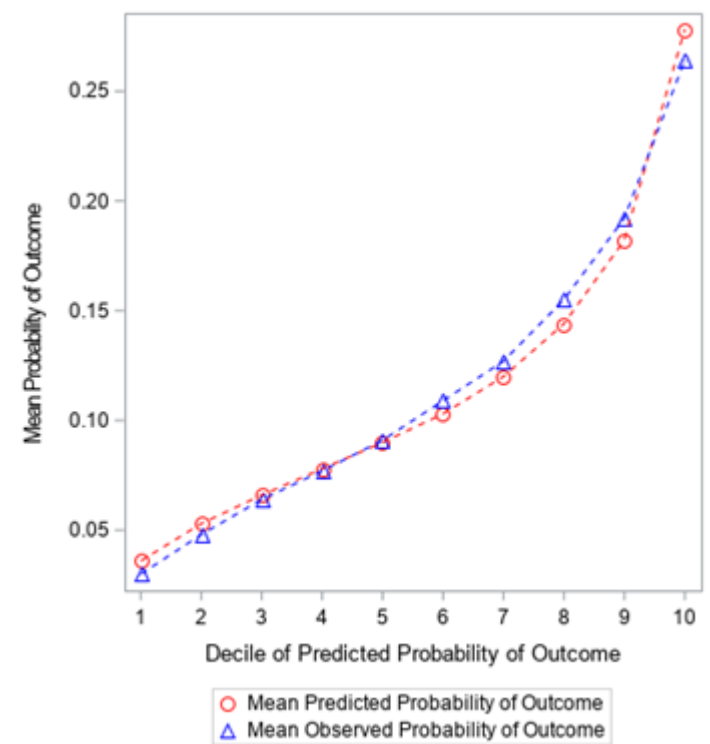


Table 13. MIPS HWR: Patient-level Observed Outcomes for Patients with and without Social Risk Factors

Social Risk Factor	MIPS HWR Cohort	Mean Observed Readmission Rate for Patients <u>with</u> the Social Risk Factor (%)	Mean Observed Readmission Rate for Patients <u>without</u> the Social Risk Factor (%)
Dual Eligibility	All patients	19.88	14.74
	Cardiorespiratory	22.71	17.58
	Neurology	16.07	12.42
	Medicine	20.81	16.97
	Surgical	16.72	11.05
	CV	18.62	12.96
High ADI	All patients	17.05	15.30
	Cardiorespiratory	19.98	18.26
	Neurology	13.78	12.88
	Medicine	18.93	17.48
	Surgical	13.00	11.43
	CV	15.16	13.34

Figure 9. MIPS HWR: Correlation Between the Clinician-group Proportion of Patients with DE (top quartile) and Measure Scores (RARRs)

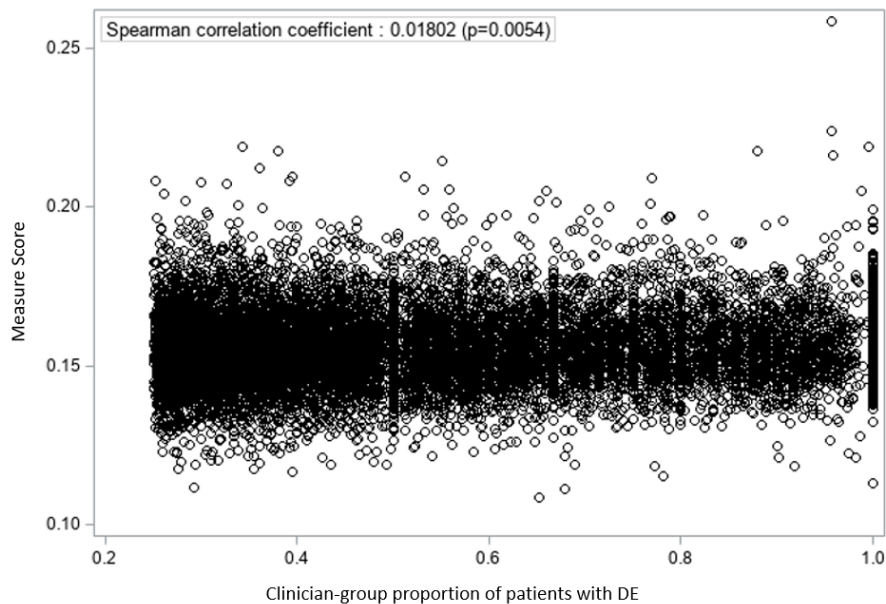


Figure 10. MIPS HWR Measure: Correlation Between the Clinician-group Proportion of Patients with High ADI (Top Quartile) and Measure Scores (RARRs)

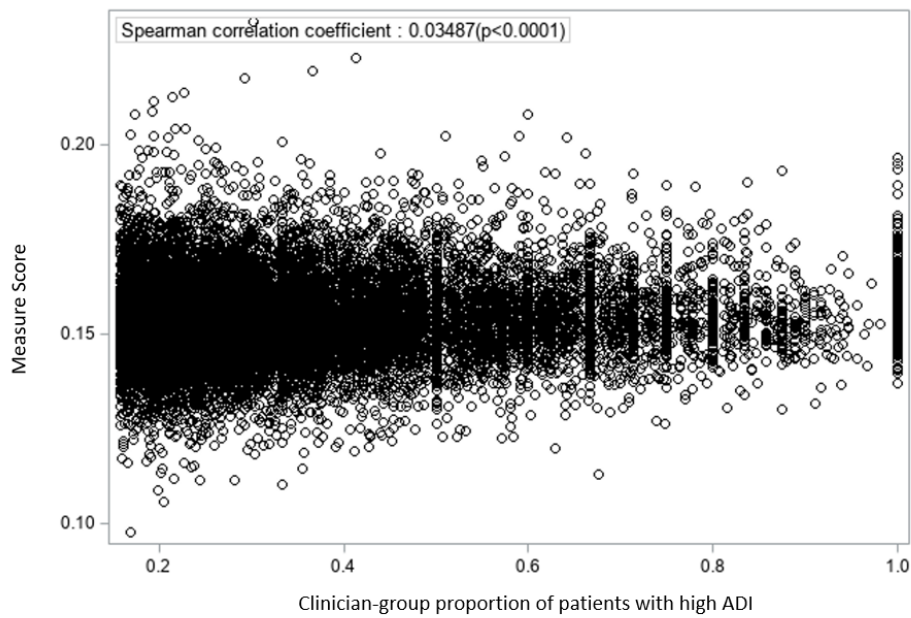


Figure 11. MIPS HWR Measure: Improvement in Patient-level Observed Readmission Rates for HWR and Specialty Cohorts (2016/2017 vs. 2021/2022)

