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Performance Measurement Work Group Meeting

October 18, 2023

HSCRC Quality Team

Agenda

- Brief Overview of Quality Policy priorities for RY26
- RY 2026 QBR Draft Policy
  - AIR Presentation HCAHPS and Person and Family Engagement
  - Draft Recommendations
- MHAC RY 2026 discussion
  - PPC Trends
  - Bayesian Smoothing
  - Performance Standards Calculations

RY 2026 Policy Decisions

1. Quality-Based Reimbursement (QBR) Program
    - Addition of Sep 1 Measure to Safety domain
    - Transition from inpatient mortality to all-cause, all-payer 30-day mortality
    - HCAHPS improvement: Supplemental questions
    - Add disparity in Medicare Timely Follow-Up
    - Add ED wait time/Turnaround measure
    - Evaluate revenue at-risk under program given addition of measures

1. Maryland Hospital Acquired Conditions (MHAC) Program
    - Payment PPCs
    - Bayesian Smoothing
    - Calculation of performance standards
    - Small hospital concerns
    - Revenue at-risk

RY 2026 Policy Decisions, continued

3. Readmission Reduction Incentive Program (RRIP)
    - Improvement target
    - Attainment target
    - Revisits/Observation
    - Excess Days in Acute Care measure
    - Within hospital disparities measure and incentive

3. Population Health: IP diabetes screening recommendation
    - Discussion on options for payment policy
    - Evaluate options for removing those already screened and opt outs from denominator

3. Emergency Department/Multi-Visit Patient policy recommendation
    - Finalize measure
    - How to incorporate into existing or new PAU policy

RY 2026 Quality Based Reimbursement

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SEP-1 (The Severe Sepsis and Septic Shock Management Bundle)

CMS Adoption of Severe Sepsis and Septic Shock: Management Bundle

- CMS will include this measure in the FY 2026 VBP program
  - CMS has shown that “compliance with the measure was associated with a reduction in 30-day mortality” and believes inclusion of this measure “will contribute towards CMS’ goal of advancing health equity”
- Hospital reporting began with October 2015 discharges
- Reported on Care Compare website with the July 2018 data refresh; national average at 49%
- Since initial publication, national average has consistently increased, now at 60% (with slight dip during COVID PHE)
- Top 10% of hospitals perform at 80%

Sep-1–Early Management Bundle, Severe Sepsis/Septic Shock

Denominator Statement: Inpatients age 18 and over with an ICD-10-CM Principal or Other Diagnosis Code of Sepsis, Severe Sepsis (R65.2), or Septic Shock (R65.21).
Exclusions: Comfort Care, Palliative Care, Sepsis Clinical Trial, Transfers in or out, ABX >24 hrs prior, LOS > 120 days
Numerator Statement: Patients who received ALL of the following:
Received within three hours of presentation of severe sepsis:

- Initial lactate level measurement
- Broad spectrum or other antibiotics administered
- Blood cultures drawn prior to antibiotics

AND received within six hours of presentation of severe sepsis:

- Repeat lactate level measurement only if initial lactate level is elevated

AND ONLY if:
Initial Hypotension present initiated within three hours of Initial Hypotension:

- Resuscitation with 30 mL/kg crystalloid fluids

OR
Septic Shock Present initiated within three hours of septic shock presentation: •

- Resuscitation with 30 mL/kg crystalloid fluids

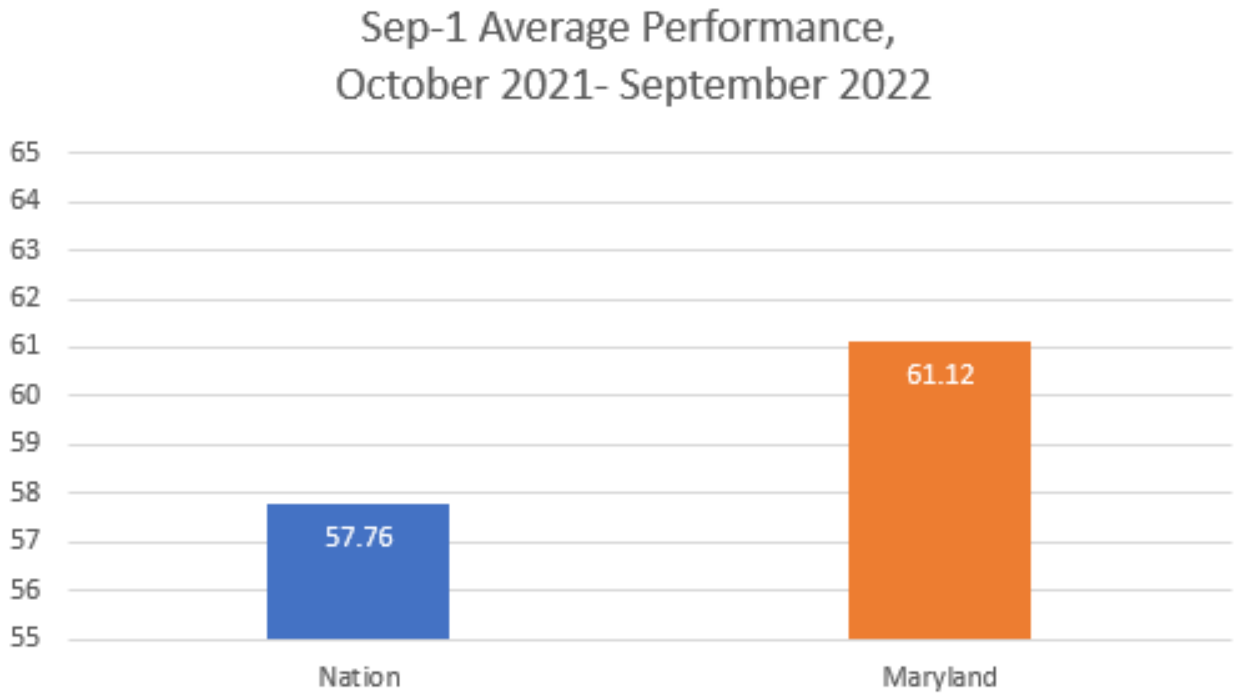
AND ONLY IF hypotension persists after fluid administration, received within six hours of presentation of septic shock:

- Vasopressors

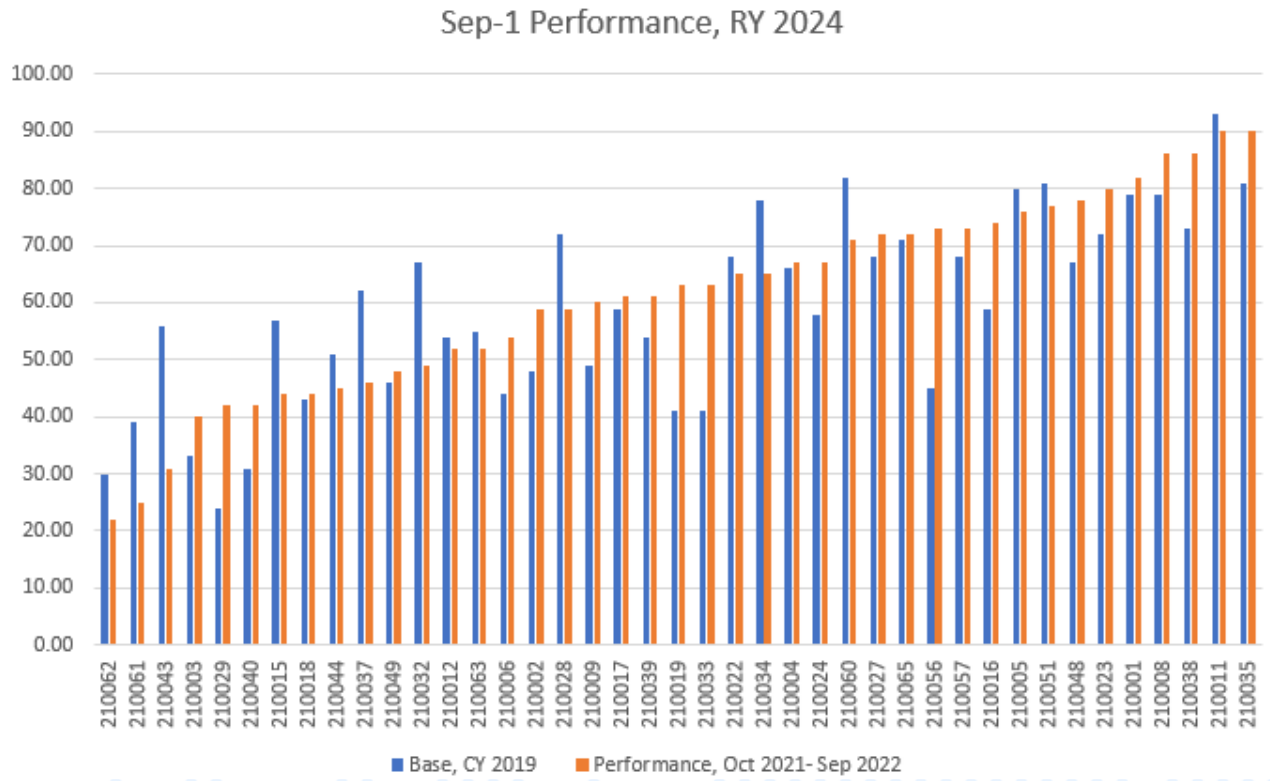
AND ONLY if hypotension persists after fluid administration or initial lactate >= 4 mmol/L, received within six hours of presentation of septic shock:

- Repeat volume status and tissue perfusion assessment Included

Sep-1 Most Recent Performance, MD vs Nation



Sep-1 Most Recent Performance compared to Base, by Hospital



- 4 hospitals improved >50%
- 6 hospitals improved 20%- 50%
- 15 hospitals improved 1%- 20%
- 10 hospitals declined 1%- 20%
- 6 hospitals declined 20%-50%

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Adding Sepsis Measure to QBR

- Despite concerns with this measure (see appendix) staff believe this must also be added to QBR for RY26
  - Do not expect 100 percent of patients will receive bundle (threshold for starting to earn points is 59.7 percent; full points earned at benchmark of 84.4 percent)
- Methodology:
  - Assign to the Safety domain; propose to weight at 1/7 of the domain
  - Use VBP benchmarks and thresholds
  - Measure improvement and attainment
  - Base period: CY 2022
  - Performance period: October 2023-September 2024

Disparities in Medicare Timely Follow-Up

Timely Follow-up After Acute Exacerbations of Chronic Conditions

Included in SIHIS Care Transformation Domain

- NQF endorsed health plan measure that looks at percentage of ED, observation stays, and inpatient admissions for one of the following six conditions, where a follow-up was received within time frame recommended by clinical practice:
  - Hypertension (7 days)
  - Asthma (14 days)
  - Heart Failure (14 days)
  - CAD (14 days)
  - COPD (30 days)
  - Diabetes (30 days)
- Important link between hospitals and primary care
- Chronic conditions overlap with many of the PQIs
- Measure included in QBR program in the Person and Community Engagement domain, weighted at 5% of the program
  - (2.5% Medicaid, 2.5% Medicare)

SIHIS Domain 2: Goal #2, Targets vs Performance

Goal: Improve care coordination for patients with chronic conditions		
Measure	**Timely Follow-up After Acute Exacerbations of Chronic Conditions (NQF#3455) Goals**	**Statewide Performance**
2018 Baseline	70.85%	
2021 Year 3 Milestone	72.38% 2.16 percent improvement	70.07% 1.10 percent reduction
2023 Year 5 Milestone	73.42% 3.62 percent improvement	72.08%, YTD through June 1.74 percent improvement
2026 Year 8 Final Target	75% or .50% better than national rate 5.86 percent improvement	

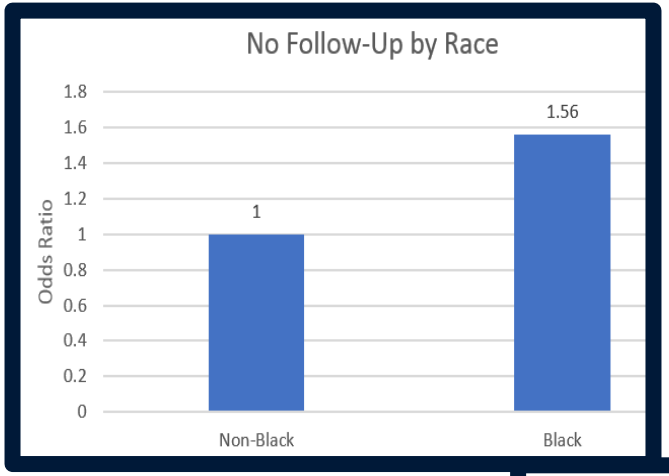
HSCRC was required to submit memo to CMMI on CY21 missed goal.

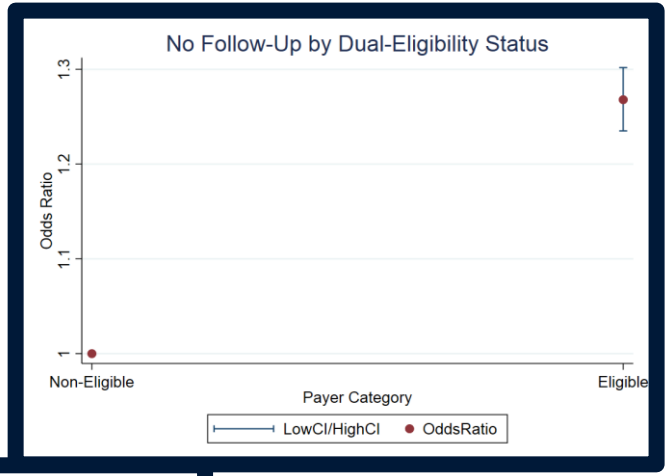
Memo emphasized that focus on reducing disparities in TFU would allow MD to meet future goal of 75 percent.

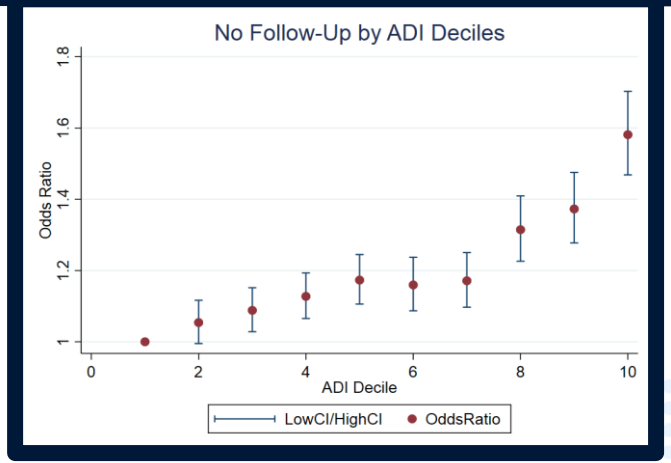
Stratification for process measure

- CCLF Medicare dataset
- Risk adjusted for age and sex
- CY 2018-2021
- Odds ratio: measure of association between an exposure and an outcome
  - OR=1 Exposure does not affect odds of outcome
  - OR>1 Exposure associated with higher odds of outcome
  - OR<1 Exposure associated with lower odds of outcome

Disparities in Medicare TFU by PAI components







Based on these results, HSCRC staff have been working over the last year to adapt the readmission disparity gap methodology to TFU for Medicare.

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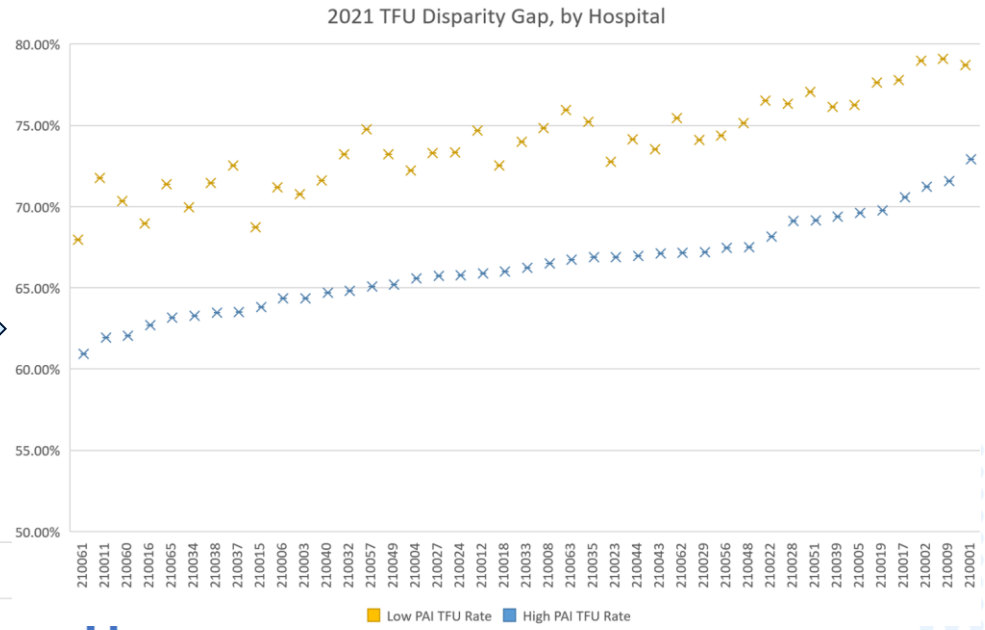
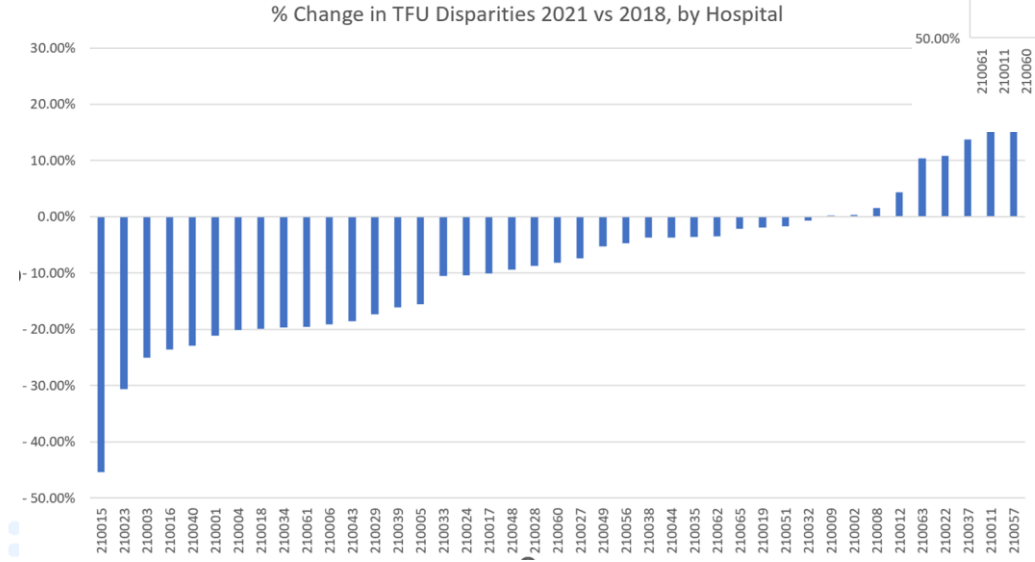
Key Components of TFU Disparity Gap Methodology

- Medicare only (in future years staff plan to add Medicaid)
- Measure patient-level social exposures
  - Patient Adversity Index (PAI) = race, Medicaid coverage, ADI
- Estimate association between social exposures and likelihood of TFU at hospital level for baseline (2018)
- Estimate the association for each performance year
- Difference between performance year and baseline is disparity gap improvement
- No risk adjustment because TFU is a process measure

2021 TFU Disparity Gap and Percent Change,by Hospital

Disparity Gap Descriptive Statistics:
Min: 4.91%
Max: 9.84%
Median: 7.55%





Percent Change Descriptive Statistics:
Min: 18.91%
Max: -45.38%
Median: -8.13%

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Addition of TFU Disparity Gap Metric to QBR: Decision Points

- Staff believe it is imperative to add this measure in QBR to provide additional incentive to advance health equity and achieve SIHIS goal

- Methodological considerations:
  - Use of readmission disparity gap methodology for this measure
  - Whether to incorporate into QBR or have stand alone incentive
  - Improvement vs. Attainment
  - Performance benchmark or goal
  - Reward only vs. rewards and penalties
  - Weight in QBR or revenue at-risk (this will be discussed later in meeting)

Emergency Department Length of Stay Measures

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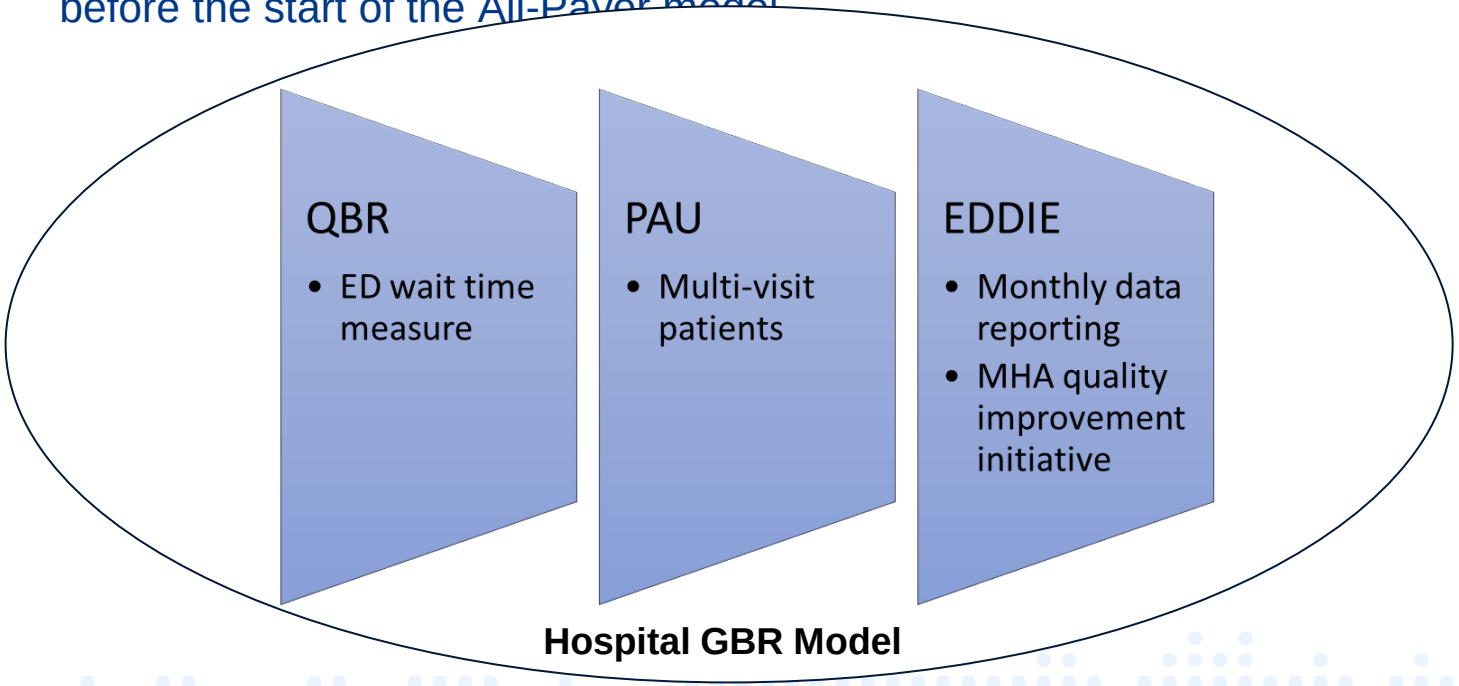
HSCRC Policies and Initiatives to Address ED Length of Stay*

- ED length of stay in Maryland has been consistently higher than the nation since before the start of the All-Payer model



*In addition to HSCRC policies and initiatives, other activities like legislative task force are underway

QBR Background

- Inpatient ED wait times (ED1b and ED2b) were added to QBR program in RY 2020 (CY 2018 performance)
  - Improvement only
  - Benchmark was national median by ED volume category
  - Included in Person and Community Engagement domain as two measures
  - Protection for hospitals that did worse on QBR despite earning 1 improvement point for ED length of stay (i.e., if hospitals QBR score was lower despite 1 improvement point, the higher score without ED measures was used)
  - In RY2020, 53% of hospital measures had an improvement, 2% remained the same, and 45% declined
  - In RY2021, 62% of hospitals measures had an improvement, 4% remained the same, and 33% declined
- Starting in CY 2022, Maryland hospitals were required to submit the electronic clinical quality measure for ED2
  - CMS then discontinued the ED2 eCQM starting in CY 2024, however HSCRC staff are in discussions with CMS about maintenance of this measure.

Measure Availability

ED Wait Time Measures	2012	2013	2014-2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Frequency	Source
ED 1: Arrival to IP Admission													Quarterly, rolling 12 months	CMS Care Compare
ED 2: Decision to admit until Admission													Quarterly, rolling 12 months	CMS Care Compare
OP 18 a,b,c: Arrival to Discharge													Quarterly, rolling 12 months	CMS Care Compare
ED 2: eCQM Version (MD only)											?	?	6 months/Quarterly	CRISP-Medisolv
EDDIE ED1-like: Arrival to IP Admission										June		?	Monthly	Hospital send to HSCRC
EDDIE OP 18-like: Arrival to Discharge										June		?	Monthly	Hospital send to HSCRC
EDDIE: EMS Turnaround Time										June		?	Monthly	MIEMSS
Available														
Available for RY2026 QBR														

Measure Options

ED Measures	Pros	Cons
OP-18: Arrival to Discharge	• 80 percent of ED visits • Validated CMS measure • Available on Care Compare • National data available for benchmarking	• Data is delayed (9 months) • Concern on not focusing on IP throughput issues as directly
ED 2: eCQM Version (MD only)	• Validated CMS measure (historically) • State has infrastructure to collect • CY22 and CY23 historical data available for measuring improvement	• Requires special assistance from CMS to maintain and from EHR vendors to implement • Exclusion of patients with >1 hr observation • Concerns on lack of order to admit for some patients admitted • May not be available for CY 2024
EDDIE ED1-like: Arrival to IP Admission	• Full time from arrival to IP admission • Timely monthly reporting • Focus on IP • All ED admissions (not sampled)	• Similar measure to CMS but unaudited data • Concerns over observation cases being treated the same across hospitals or being excluded • Only about 20 percent of patients are admitted
EDDIE OP 18-like: Arrival to Discharge	• Timely monthly reporting • All ED admissions (not sampled) • All ED admissions (not sampled)	• Similar measure to CMS but unaudited data • Concerns over observation cases being treated the same across hospitals or being excluded • Concern on not focusing on IP throughput issues as directly
EDDIE: EMS Turnaround Time	• Easy measure to collect • Improvement will benefit patient, hospital, and EMS	• Concern on data collection consistency • Only addresses length of stay for those arriving by ambulance

Discussion

- Which measure should we propose to include in QBR?
- Methodological considerations:
  - Base and performance period?
  - Improvement vs. Attainment?
  - Performance benchmark or goal?
  - Reward only vs. rewards and penalties?
  - Weight in QBR or revenue at-risk (this will be discussed later in meeting)

30-Day Mortality Update

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Mortality Updates: Hospice

- In HSCRC measure, confirmed hospice is identified by:
  - Type of daily service = hospice
  - Discharge disposition = home hospice or hospice
  - Claims data for any hospice claim within 30 days (*currently Medicare only but plan to extend to Medicaid*)
- Medicare mortality measures exclude hospice differently for claims and hybrid mortality measure. Hybrid is all-cause so more analogous to our all-payer, all-cause measure. Hybrid measure excludes:
  - Those enrolled in hospice at time of, or 12 months prior to index admission, or enrolled within 2 days of admission, or with principle dx of cancer and enrolled in hospice at anytime during admit

Addition of 30-Day Measure to QBR

- Staff believes moving to 30-day measure is more comprehensive assessment of hospital quality and aligns with CMS
  - Need to adjust hospice exclusion
  - Should we have both IP and 30-day measure in program?
  - Is 10% at-risk on mortality sufficient?

RY 2024 QBR Cutpoint

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RY 2024 QBR Cutpoint Discussion

- Background:
  - Current cut point is 41%, based on average national scores from FFY16-FFY21 using QBR weighting
  - Using RY24 data and transforming national scores to QBR weighting, the national average is ~23%
- To account for post-COVID time period, staff proposes to lower cutpoint for Commissioner consideration:

Cut Point Analysis	National Average							
	CMS VBP	QBR Weighted	QBR Weighted	QBR Weighted	QBR Weighted	QBR Weighted	QBR Weighted	QBR Weighted
FFY16	39.45	42.67	42.67					
FFY17	35.56	39.93	39.93	39.93				
FFY18	37.43	42.00	42.00	42.00	42.00			
FFY19	38.12	40.90	40.90	40.90	40.90	40.90		
FFY20*	38.49	41.85	41.85	41.85	41.85	41.85	41.85	
FFY 21*	33.88	38.53	38.53	38.53	38.53	38.53	38.53	38.53
RY24*			23.00	23.00	23.00	23.00	23.00	23.00
Average	**37.15**	**40.98**	**38.41**	**37.70**	**37.26**	**36.07**	**34.46**	**30.76**

*Linear Scores Added to PCE Domain

Staff used different method to calculate RY24 scores. Will be testing on previous FFY to ensure similar results. If consistent, staff are open to proposing 31 percent to 34 percent cut point for Commission consideration.

QBR Cutpoint Comparison

	41% cutpoint	31% cutpoint
# of hospitals penalized	40	33
# of hospitals rewarded	1	8
$ revenue penalties	$ (97,990,365.00)	$ (64,250,481.00)
% revenue penalties	-0.87%	-0.57%
$ revenue rewards	$ 91,892.00	$ 4,712,071.00
% revenue rewards	0.0008%	0.042%
Net Adjustments	$ (97,898,473.00)	$ (59,538,410.00)

- Need to also propose/refine RY25 and RY26 cutpoint
- Draft and/or final policy for RY 2026 will include modeling of proposed QBR changes. Given increase in non-National measures, need to think about best ways to estimate National scores (i.e., add in Maryland average or median score for national hospitals?)

QBR Revenue-at-Risk Discussion

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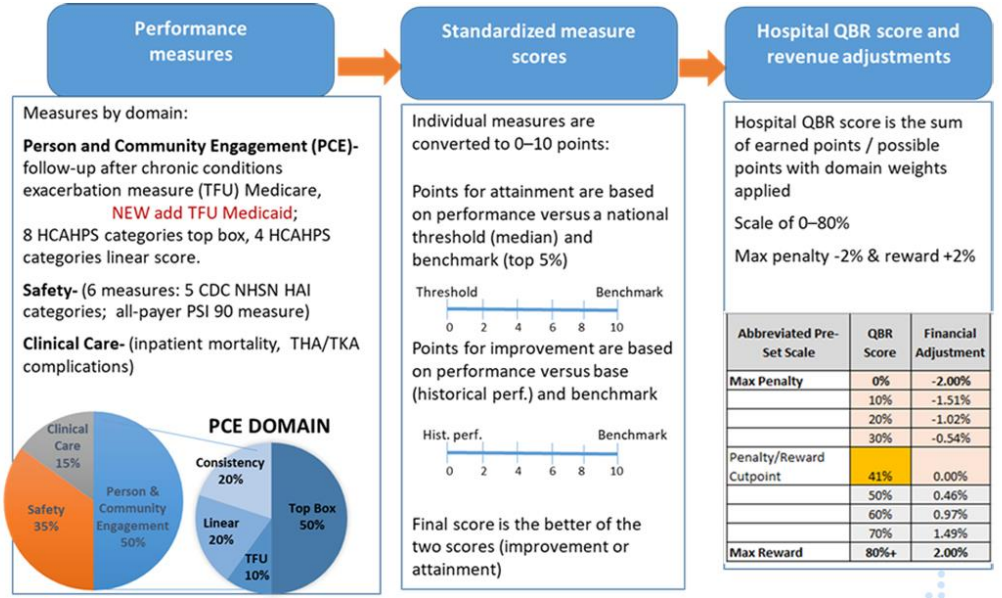
QBR Revenue At Risk- Discussion

- QBR holds 2% of a hospital's IP revenue-at-risk (r@r)
- Addition of TFU-Disparity Gap and Sepsis further reduces the r@r for each measure
- "Catch-all" program
- Ideas for addressing this r@r issue while continuing to align with VBP?
  - Increase program's r@r to 3%
  - Move Safety Domain to MHAC

RY 2025 QBR Program Methodology



Options for Addressing QBR R@R

Option 1: Continue RY25 Policies (w/ Sep-1, TFU disparity, ED length of stay)

Option 2: Move safety domain to MHAC, QBR and MHAC 2%

Option 3: QBR 3%, MHAC 1%

Summary of Potential QBR R@R Options alt.

QBR Option 1 (Status Quo)

	Measures	IP Revenue at Risk (%)	Revenue at Risk ($)
PCE	HCAHPS	0.750%	$1,875,000
	ED Wait Times	0.100%	$250,000
	Timely Follow Up	0.150%	$375,000
	Subtotal	*1.000%*	*$2,500,000*
Clinical Care	IP Mortality	0.200%	$500,000
	THA/TKA	0.100%	$250,000
	Subtotal	*0.300%*	*$750,000*
Safety	NHSN Infections	0.500%	$1,250,000
	PSI 90	0.100%	$250,000
	SEP_1	0.100%	$250,000
	Subtotal	*0.700%*	*$1,750,000*
	Total	**2.000%**	**$5,000,000**

QBR Option 2 (w/o Safety;2%)

	Measures	IP Revenue at Risk (%)	Revenue at Risk ($)
PCE	HCAHPS	1.155%	$2,887,500
	ED Wait Times	0.154%	$385,000
	Timely Follow Up	0.231%	$577,500
	Subtotal	*1.540%*	*$3,850,000*
Clinical Care	IP Mortality	0.307%	$766,705
	THA/TKA	0.153%	$383,295
	Subtotal	*0.460%*	*$1,150,000*
	Total	**2.000%**	**$5,000,000**

QBR Option 3 (w/ Safety;3%)

	Measures	IP Revenue at Risk (%)	Revenue at Risk ($)
PCE	HCAHPS	1.125%	$2,812,500
	ED Wait Times	0.150%	$375,000
	Timely Follow Up	0.225%	$562,500
	Subtotal	1.500%	$3,750,000
Clinical Care	IP Mortality	0.300%	$750,038
	THA/TKA	0.150%	$374,963
	Subtotal	0.450%	$1,125,000
Safety	NHSN Infections	0.750%	$1,875,000
	PSI 90	0.150%	$375,000
	SEP_1	0.150%	$375,000
	Subtotal	1.050%	$2,625,000
	Total	**3.000%**	**$7,500,000**

MHAC Option 1 (Status Quo)

	Measures	IP Revenue at Risk (%)	Revenue at Risk ($)
No Domains	15 PPCs	2.000%	$5,000,000
	Subtotal	*2.000%*	*$5,000,000*
	Total	**2.000%**	**$5,000,000**
	Grand Total	***4.000%***	***$10,000,000***

MHAC Option 2 (w/ Safety;2%)

	Measures	IP Revenue at Risk (%)	Revenue at Risk ($)
PPC	15 PPCs	1.300%	$3,250,000
	Subtotal	*1.300%*	*$3,250,000*
Safety	NHSN Infections	0.500%	$1,250,000
	PSI 90	0.100%	$250,000
	SEP_1	0.100%	$250,000
	Subtotal	*0.700%*	*$1,750,000*
	Total	**2.000%**	**$5,000,000**
	Grand Total	***4.000%***	***$10,000,000***

MHAC Option 3 (w/o Safety;1%)

	Measures	IP Revenue at Risk (%)	Revenue at Risk ($)
No Domains	15 PPCs	1.000%	$2,500,000
	Subtotal	*1.000%*	*$2,500,000*
	Total	**1.000%**	**$2,500,000**
	Grand Total	***4.000%***	***$10,000,000***

- Example Hospital IP Revenue: $250M
- Intention is to make QBR measures more salient
- Proposals consider reducing weight applied to PPCs
- Proposals maintain or increase weight to QBR measures
- Aggregate at risk is not affected

American Institute of Research

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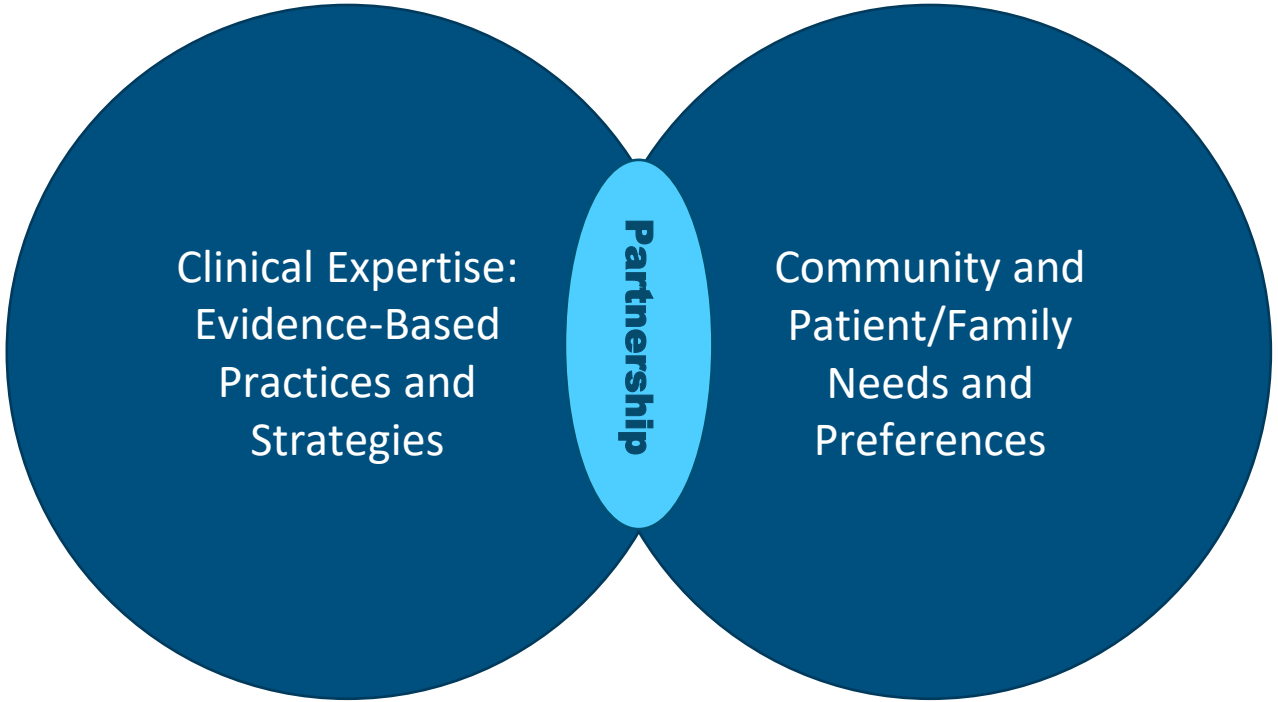
How Can Patient and Family Advisors Help Improve HCAHPS Scores?

Thomas Workman, Ph.D. Principal Researcher
IPRO HQIC SME - Patient and Family Engagement

HSCRC Performance Workgroup | October 18, 2023

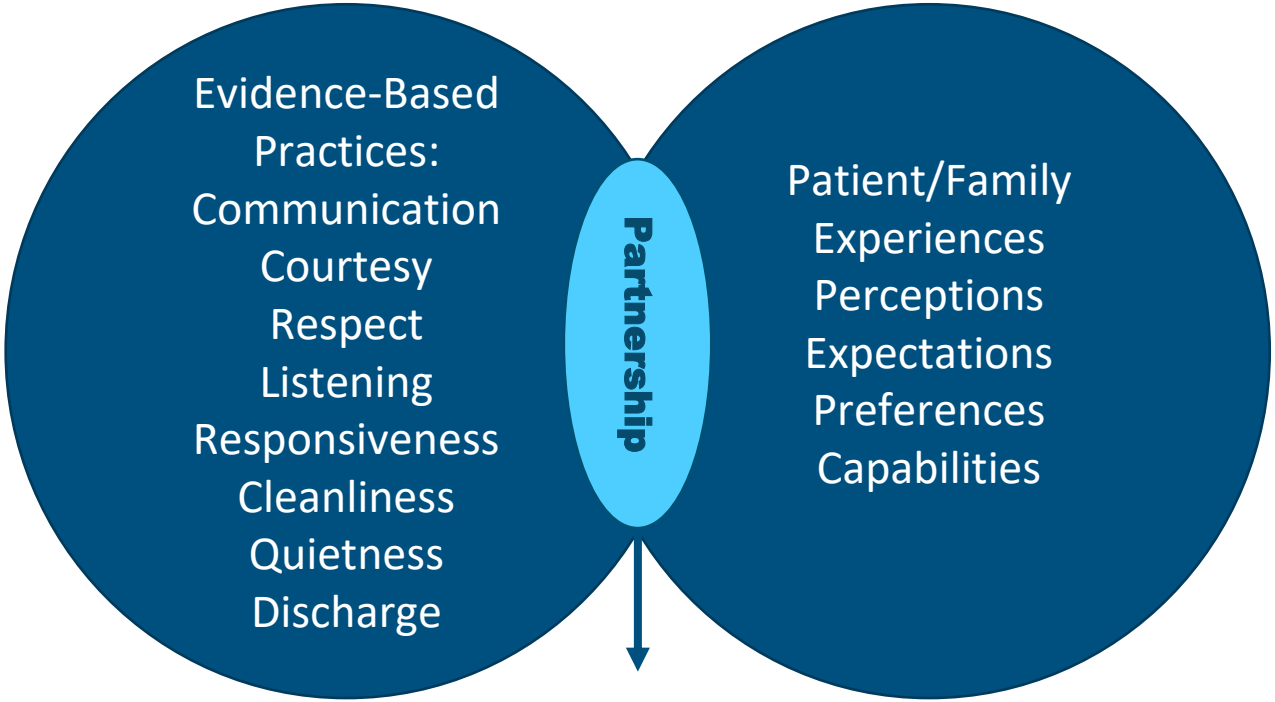
The Power of Partnership



Partnership occurs when the needs and preferences of patients and family members are integrated with clinical practices and strategies.

Thinking About HCAHPS from a Partnership Perspective

How does the way clinical staff interact with patients and families improve care outcomes and quality of care?



How does the way I interact with clinical staff lead to better health outcomes for me/my family member?

Matching Evidence-Based Practices to Patient/Family Expectations and Preferences to Improve Health Outcomes

Effective Communication is Based in Perception

- How do patients/family caregivers perceive clinician responses and behaviors?
- What does courtesy and respect mean to the patients/families we serve?
- What makes the patients/families we serve feel that we've listened?
- How do I know that my explanations and instructions are being understood by the patients/families I care for?
- What differences in perception exist across different patient populations?

Utilizing Patient and Family Advisors as Partners

- Collecting patient and family experiences and perspectives through:
  - PFA observations/shadowing
  - PFA rounding/visits
  - PFA review and analysis of HCAHPS scores and related data
- Representing patient and family experiences and perspectives on Patient Experience, Quality Improvement committees or as part of a Patient and Family Advisory Committee
- Serving as a mentor to the CEO/CMO/CNO, QI, or Patient Experience Officer
- Training staff in communicating with various patient populations

Selection and Recruitment of Patient and Family Advisors

- Represents a segment community that we serve
- Able to step beyond their own experience and recognize the common experiences of the diverse patient/family community
- Empowered by hospital staff and administration to express patient and family needs and perspectives
- Focused on the mutual goal of improved health outcomes and not consumer preference.
- Able to articulate their observations and suggestions constructively

Important Considerations

- Communicating a Culture of Patient-Centered care
- Onboarding, Orienting, and Coaching PFAs
- Preparing Clinical Staff for PFA engagement
- PFA Compensation
- Measuring PFA impact

Resources –

Available in the IPRO HQIC Resource Library

- IPRO HQIC Sample PFA Role Description for Recruitment
- Recording of the September 2022 PFE Learning and Action Event: *Identifying and Supporting Patient Representatives on a Quality Improvement or Patient Safety Committee*

Available Online

- AHRQ Guide to Patient Engagement in Hospital Quality and Safety
  - Strategy 1: Working with Patients and Families as Advisors

Hospitals have the opportunity to access these resources to help improve on HCAHPS.

Draft Recommendations

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RY 2026 Draft QBR Recommendations

Staff will be developing draft policy that proposes the following:

- Modify QBR and MHAC revenue at-risk
- Add Sep-1 to the Safety Domain
- Add ED wait time measure to PCE domain
- Add TFU Disparity Gap measure to PCE Domain
- Replace IP Mortality with 30-Day Mortality in Clinical Care Domain
- Request hospitals to submit supplemental HCAHPS questions to MHCC
- Determine cutpoint for rewards and penalties *(based on modeling of MD and/or national scores with proposed changed)*
- Continue collaboration with CRISP and other partners on infrastructure to collect hospital digital/electronic clinical quality measures and core clinical data elements for potential future use in the payment program.

Maryland Hospital Acquired Conditions

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PPC Trends

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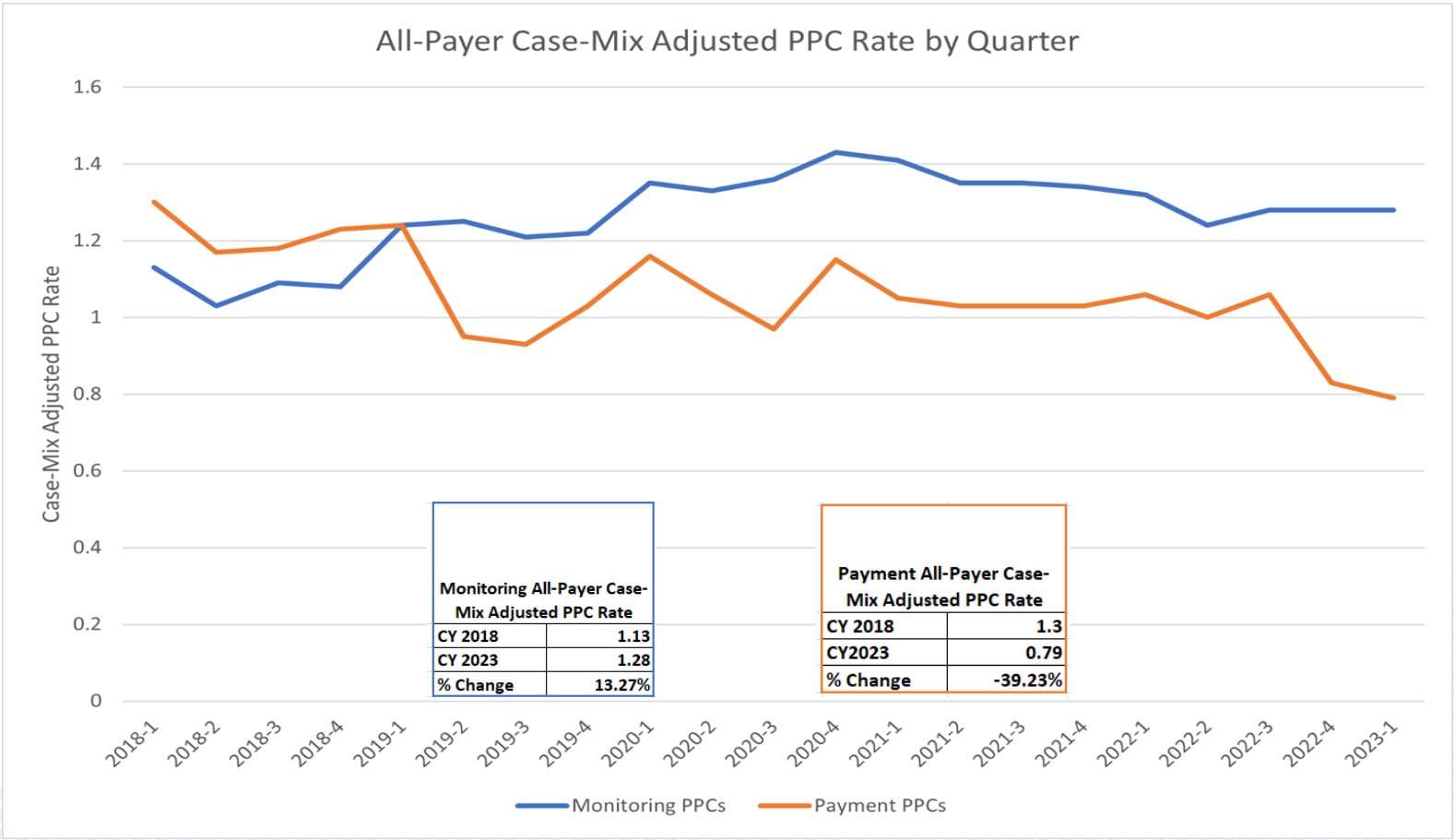
PPC Performance, CY2023 YTD through March



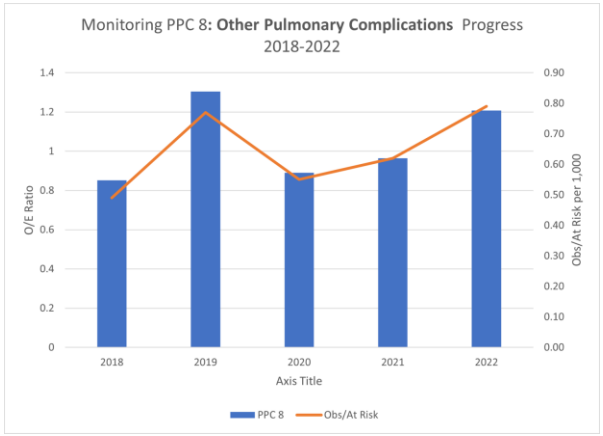
Monitoring All-Payer Case-Mix Adjusted PPC Rate	
CY 2018	1.13
CY 2023	1.28
% Change	13.27%

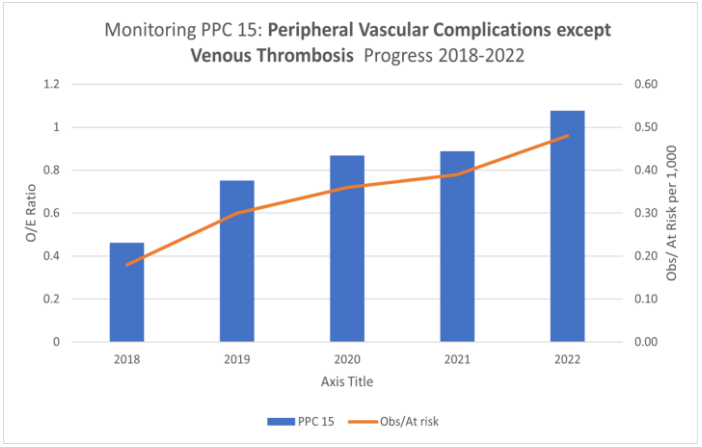
Payment All-Payer Case-Mix Adjusted PPC Rate	
CY 2018	1.3
CY2023	0.79
% Change	-39.23%

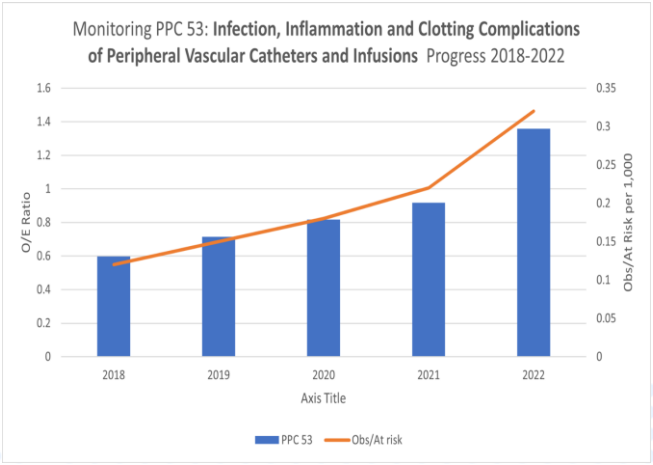
PPC Report Analysis

- Utilized the O/E ratio and Obs/At Risk to understand the progress of the ppc's and determine if any needed to be moved into the opposite program.
- There were concerns with a few monitoring PPC's due to their increase in O/E ratio over time, however the PPCs with increases had clinical validity concerns raised during MHAC redesign.
  - PPC 8: Other Pulmonary Complications
  - PPC 15: Peripheral Vascular Complications except Venous Thrombosis
  - PPC 53: Infection, Inflammation and Clotting Complication of Peripheral Vascular and Infusions
- **Based on the findings, overall HSCRC will not be moving any monitoring PPC's into the payment program for RY 2026.** We will continue to monitor the MHAC summary report for findings in the future.

PPC Trends Over Time







Observed Counts CY 2022:

- PPC 8: 154
- PPC 15:140
- PPC 53: 91

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Other MHAC Recommendation Changes

- Consider how benchmarks and thresholds are calculated:
  - Current: Threshold = 10th percentile Benchmark = 90th percentile
  - Options:
    - Take mean of top and bottom decile (or ventile)
    - Explore + / - 2 standard deviations from the mean
- Set MHAC program weight (i.e., stay the same, add QBR safety domain, decrease to 1 percent of IP revenue)
- Establish MHAC revenue adjustment scale
- Determine if Bayesian Smoothing should be considered to improve measurement reliability

Bayesian Smoothing

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Bayesian Smoothing

- **Adjusts hospitals scores based on reliability of PPC measure at given hospital**
- **For a given PPC, the reliability of the PPC tends to increase as the number of at-risk discharges increases**
- **The reliability for PPC i for hospital j can be calculated as follows:**
  - $$\frac{Variance\ between\ hospital_i}{Variance\ between\ hospital_i + Variance\ within\ hospital_{ij}}$$
  - This is referred to as the signal to noise ratio
- **Alternative methods exist for calculating reliability**

Bayesian Smoothing for MHAC Scoring

- **The equation below illustrates how hospital j's smoothed rate for PPC measure i is based on the hospital's risk-adjusted rate (RAR), the statewide RAR, and PPC measure i's reliability for hospital j:**

$$Smoothed\ rate_{ij} = (Hospital\ RAR_{ij} \times Reliability_{ij}) + (Statewide\ RAR_{i} \times (1 - Reliability_{ij}))$$

  - The hospital's smoothed rate equals the hospital's RAR when the reliability is 1 for the measure at the hospital.
  - The hospitals' smoothed rate equals the state RAR when the reliability is 0 for the measure at the given hospital

- Similar to AHRQ's PSI 90 reliability adjustment used to calculate CMS PSI 90 results for CMS payment programs (e.g., HAC Reduction Program).

Bayesian Smoothing Example

PPC	Reliability for Hospital A	PPC RAR for Hospital A	Statewide Mean RAR	Smoothed PPC rate for Hospital A
3	0.954	1.009	1.403	1.027
4	0.151	1.028	1.593	1.508

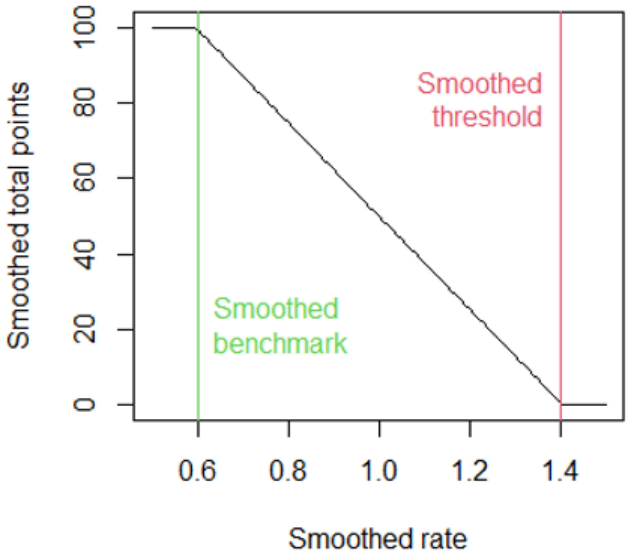
Note: This table contains hypothetical data

PPC 3 Reliability for Hospital A = 0.954

PPC 4 Reliability for Hospital A = 0.151

MHAC scores using smoothed rates

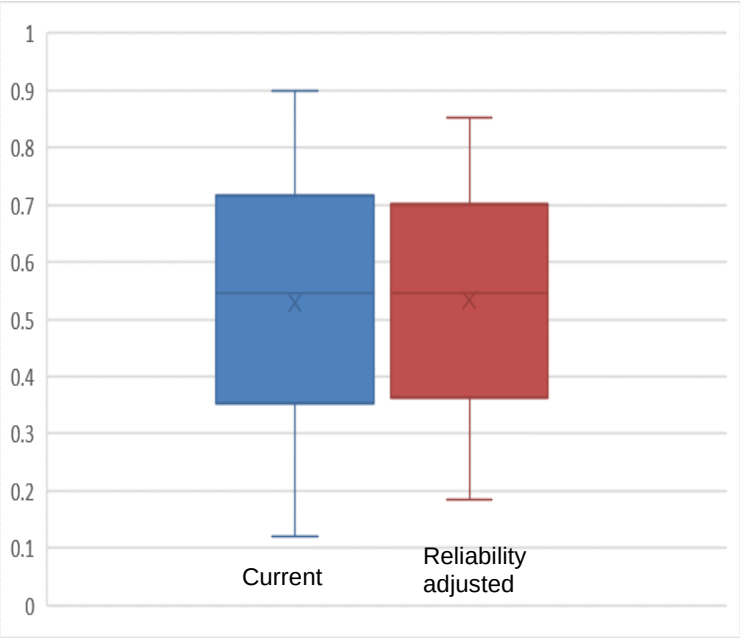
- *For each PPC, calculate the smoothed threshold for the given PPC as the 90th percentile of hospital smoothed rates for the given PPC*
- *For each PPC, calculate the smoothed benchmark for the given PPC as the 10th percentile of hospital smoothed rates for the given PPC*
- *Calculate each hospital's smoothed total points for each PPC based on the smoothed benchmark and smoothed threshold*

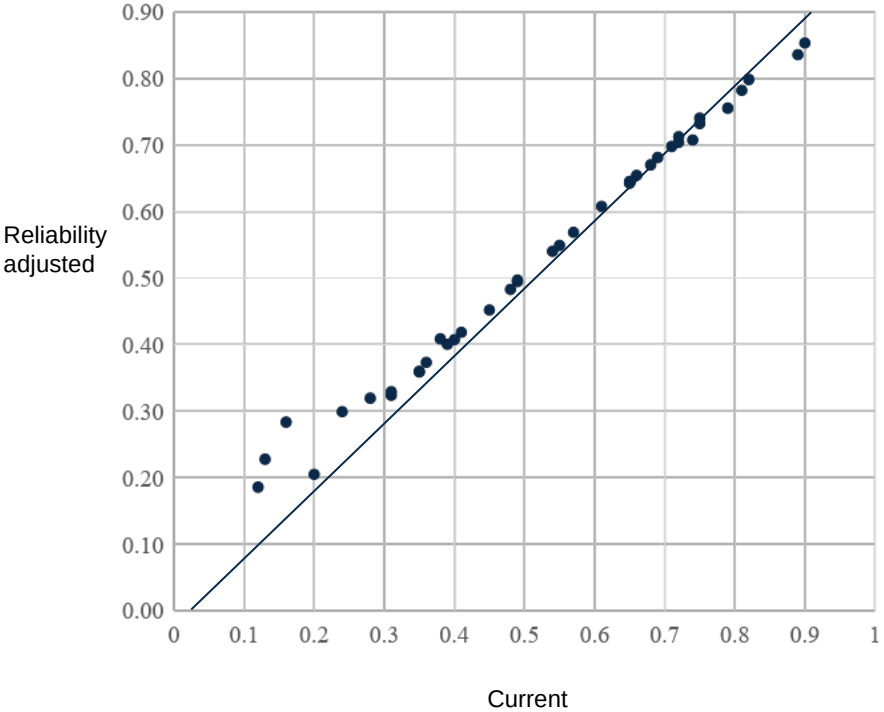


Implementing reliability adjustment

- **Option 1 - Adjust PPC rates by indirect standardization (current approach) and estimate signal variance to perform reliability adjustment**
- **Option 2 – Use regression to risk adjust PPCs and reliability adjusted hospital effect**
- **Option 3 – Fully Bayesian estimation procedure**
- **We have tested options 1 and 2**
  - Using FY 2022 performance year
  - Small hospitals performance includes FY 2021 and FY 2022

Comparison of Hospital MHAC Scores: Option 1 vs Current Method





Comparison of reliability estimates

PPC Number	Option 1	Option 2a	Option 2b
3	0.59	0.61	0.63
4	0.41	0.36	0.40
7	0.35	0.41	0.54
9	0.63	0.68	0.69
16	0.30	0.46	0.56
28	0.96	0.19	0.37
35	0.70	0.62	0.64
37	0.48	0.29	0.31
41	0.08	0.10	0.05
42	0.50	0.59	0.61
47	0.60	0.63	0.61
49	0.23	0.18	0.32
60	0.00	0.20	0.75
61	0.16	0.28	0.36
67	0.71	0.72	0.71

For average sized hospital. Option 2a – Regression with random hospital intercepts; Option 2b – Regression with random hospital intercepts and dispersion

Next steps

- **Score option 2 and compare**
- **Test extended performance periods**
- **Robustness and sensitivity tests: different base and performance periods, excluding certain indicators or hospitals**
- **Consider option 3**

Next Steps

- Draft recommendations for RY 2026 QBR will be presented at November Commission meeting and reviewed again at PMWG
- RY 2026 MHAC draft recommendations will be presented at November PMWG
- December and January PMWG will focus on RY 2026 RRIP
- Diabetes screening and Multi-Visit ED policy will be reviewed over the coming months
    - Draft diabetes screening policy may be presented at November Commission meeting

Next Meeting: Wednesday, November 15, 2023,

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APPENDIX

Examples of Opposing Positions on the Adoption of SEP-1

- *There have been ongoing concerns that SEP-1 mandates an inflexible "one size fits all" therapeutic approach for sepsis that lacks high or even moderate level evidence demonstrating its benefit and defining its risks in the highly diverse group of patients it is directed at. While the source of the low compliance reported so far with SEP-1 can be from many etiologies, it may very well reflect these concerns and clinicians' need to individualize care in patterns not consistent with the measure. Without high quality evidence based on reproducible RCT, the true benefits and risks associated with SEP-1 are unknown.*[1]
- *Because of this emphasis on timing, SEP-1 is lifesaving, and Sepsis Alliance has long supported its continued use in hospitals. …The VBP incentivizes hospitals to give patients higher quality care according to their performance on certain processes, such as SEP-1. According to CMS, the program is designed to make the quality of care better for hospital patients, and to make hospital stays a better experience for patients. …Much work still needs to be done. Sepsis Alliance will continue to educate about SEP-1's importance and work to ensure its continued use in hospitals.*[2]

[1]Wang J, Strich JR, Applefeld WN, Sun J, Cui X, Natanson C, Eichacker PQ. Driving blind: instituting SEP-1 without high quality outcomes data. J Thorac Dis. 2020 Feb;12(Suppl 1):S22-S36. doi: 10.21037/jtd.2019.12.100. Erratum in: J Thorac Dis. 2021 Jun;13(6):3932-3933. PMID: 32148923; PMCID: PMC7024755.

[2]Sepsis Alliance: Found at: https://www.sepsis.org/news/sep-1-update-inclusion-in-hospital-value-based-purchasing-program-is-a-victory-for-patients/; last accessed, 10/10/2023.

Option 1: Continue Current Policies

- Hospital IP Revenue: $250M, Hospital Total Revenue: 400M (example hospital)
- $5,000,000 at-risk, 1.25% of **total** revenue for each program

Option 1: QBR w/ Safety (2%), MHAC (2%)

	Domain Weight	Program Weight	IP Revenue at Risk (%)	Revenue at Risk ($)	Total Revenue at Risk(%)
PCE Domain		50%	1%	$2,500,000	0.6250%
HCAHPS TopBox (8)	45%	22.5%	0.45%	$1,125,000	0.2813%
HCAHPS Consistency	15%	7.5%	0.15%	$375,000	0.0938%
HCAHPS Linear (4)	15%	7.5%	0.15%	$375,000	0.0938%
ED Wait Times	10%	5%	0.10%	$250,000	0.0625%
TFU Medicare	5%	2.5%	0.05%	$125,000	0.0313%
TFU Medicare Disparity Gap	5%	2.5%	0.05%	$125,000	0.0313%
TFU Medicaid	5%	2.5%	0.05%	$125,000	0.0313%
Clinical Care Domain		15%	0.30%	$750,000	0.19%
IP Mortality	66.67%	10%	0.20%	$500,000	0.13%
THA/TKA	33.33%	5%	0.10%	$250,000	0.06%
Safety Domain		35%	0.70%	$1,750,000	0.4375%
CAUTI	14.2857%	5%	0.1%	$250,000	0.0625%
C. Diff	14.2857%	5%	0.1%	$250,000	0.0625%
SSI (2)	14.2857%	5%	0.1%	$250,000	0.0625%
CLABSI	14.2857%	5%	0.1%	$250,000	0.0625%
MRSA	14.2857%	5%	0.1%	$250,000	0.0625%
PSI 90 (10)	14.2857%	5%	0.1%	$250,000	0.0625%
Sep_1	14.2857%	5%	0.1%	$250,000	0.0625%

	Cost Weight	Program Weight	IP Revenue at Risk (%)	IP Revenue at Risk ($)	Total Revenue at Risk (%)
PPC 3	0.5005	3.5668%	0.0713%	$178,341.09	0.0446%
PPC 4	1.5519	11.0596%	0.2212%	$552,982.09	0.1382%
PPC 7	1.1248	8.0159%	0.1603%	$400,795.32	0.1002%
PPC 9	1.0478	7.4672%	0.1493%	$373,358.23	0.0933%
PPC 16	1.5503	11.0482%	0.2210%	$552,411.97	0.1381%
PPC 28	0.3379	2.4081%	0.0482%	$120,402.51	0.0301%
PPC 35	1.4394	10.2579%	0.2052%	$512,895.43	0.1282%
PPC 37	1.5936	11.3568%	0.2271%	$567,840.88	0.1420%
PPC 41	0.9745	6.9448%	0.1389%	$347,239.54	0.0868%
PPC 42	0.4264	3.0387%	0.0608%	$151,937.34	0.0380%
PPC 47	0.7724	5.5045%	0.1101%	$275,226.09	0.0688%
PPC 49	0.4717	3.3616%	0.0672%	$168,078.90	0.0420%
PPC 60	0.8978	6.3982%	0.1280%	$319,909.35	0.0800%
PPC 61	0.2099	1.4959%	0.0299%	$74,792.80	0.0187%
PPC 67	1.1332	8.0758%	0.1615%	$403,788.46	0.1009%

Option 2: Move Safety Domain to MHAC

- Hospital IP Revenue: 250M, Hospital Total Revenue: 400M (example hospital)
- $5.000.000 at-risk. 1.25% of **total** revenue for each program

Option 2: QBR w/o Safety (2%)

	Domain Weight	Program Weight	IP Revenue at Risk (%)	Revenue at Risk ($)	Total Revenue at Risk (%)
PCE Domain		77.00%	1.54%	$3,850,000	0.9625%
HCAHPS TopBox (8)	45%	34.65%	0.693%	$1,732,500	0.4331%
HCAHPS Consistency	15%	11.55%	0.231%	$577,500	0.1444%
HCAHPS Linear (4)	15%	11.55%	0.231%	$577,500	0.1444%
ED Wait Times	10%	7.70%	0.15%	$385,000	0.0963%
TFU Medicare	5%	3.85%	0.077%	$192,500	0.0481%
TFU Medicare Disparity Gap	5%	3.85%	0.077%	$192,500	0.0481%
TFU Medicaid	5%	3.85%	0.077%	$192,500	0.0481%
Clinical Care Domain		23.00%	0.46%	$1,150,000	0.2875%
IP Mortality	66.67%	15.3341%	0.3067%	$766,705	0.1917%
THA/TKA	33.33%	7.6659%	0.1533%	$383,295	0.0958%

	Cost Weight	Domain Weight	Program Weight	IP Revenue at Risk (%)	IP Revenue at Risk ($)	Total Revenue at Risk (%)
PPC Domain			65%	1.30%	$3,250,000	0.81%
PPC 3	0.5005	3.57%	2.3184%	0.0464%	$115,921.71	0.0290%
PPC 4	1.5519	11.06%	7.1888%	0.1438%	$359,438.36	0.0899%
PPC 7	1.1248	8.02%	5.2103%	0.1042%	$260,516.96	0.0651%
PPC 9	1.0478	7.47%	4.8537%	0.0971%	$242,682.85	0.0607%
PPC 16	1.5503	11.05%	7.1814%	0.1436%	$359,067.78	0.0898%
PPC 28	0.3379	2.41%	1.5652%	0.0313%	$78,261.63	0.0196%
PPC 35	1.4394	10.26%	6.6676%	0.1334%	$333,382.03	0.0833%
PPC 37	1.5936	11.36%	7.3819%	0.1476%	$369,096.57	0.0923%
PPC 41	0.9745	6.94%	4.5141%	0.0903%	$225,705.70	0.0564%
PPC 42	0.4264	3.04%	1.9752%	0.0395%	$98,759.27	0.0247%
PPC 47	0.7724	5.50%	3.5779%	0.0716%	$178,896.96	0.0447%
PPC 49	0.4717	3.36%	2.1850%	0.0437%	$109,251.29	0.0273%
PPC 60	0.8978	6.40%	4.1588%	0.0832%	$207,941.08	0.0520%
PPC 61	0.2099	1.50%	0.9723%	0.0194%	$48,615.32	0.0122%
PPC 67	1.1332	8.08%	5.2492%	0.1050%	$262,462.50	0.0656%

Safety Domain		35%	0.70%	$1,750,000.00	0.44%
CAUTI	14.2857%	5%	0.1%	$250,000	0.0625%
C. Diff	14.2857%	5%	0.1%	$250,000	0.0625%
SSI (2)	14.2857%	5%	0.1%	$250,000	0.0625%
CLABSI	14.2857%	5%	0.1%	$250,000	0.0625%
MRSA	14.2857%	5%	0.1%	$250,000	0.0625%
PSI 90 (10)	14.2857%	5%	0.1%	$250,000	0.0625%
Sep_1	14.2857%	5%	0.1%	$250,000	0.0625%

Option 3: QBR 3%, MHAC 1%

- Hospital IP Revenue: 250M, Hospital Total Revenue: 400M (example hospital)
- QBR: 7,500,000 at-risk, 1.875% of **total** revenue
- MHAC: $2,500,000 at-risk, 0.625% of **total** revenue

Option 3: QBR w/ Safety (3%), MHAC (1%)

	Domain Weight	Program Weight	IP Revenue at Risk (%)	IP Revenue at Risk ($)	Total Revenue at Risk (%)
PCE Domain		50%	1.5%	$3,750,000.00	0.9375%
HCAHPS TopBox (8)	50%	22.5%	0.675%	$1,687,500	0.4219%
HCAHPS Consistency	15%	7.5%	0.2%	$562,500	0.1406%
HCAHPS Linear (4)	15%	7.5%	0.2%	$562,500	0.1406%
ED Wait Times	10%	5%	0.15%	$375,000	0.0938%
TFU Medicare	5%	2.5%	0.075%	$187,500	0.0469%
TFU Medicare Disparity Gap	5%	2.5%	0.075%	$187,500	0.0469%
TFU Medicaid	5%	2.5%	0.075%	$187,500	0.0469%
Clinical Care Domain		15%	0.45%	$1,125,000.00	0.2813%
IP Mortality	66.66%	10.0005%	0.3000%	$750,037.50	0.1875%
THA/TKA	33.33%	4.9995%	0.1500%	$374,962.50	0.0937%
Safety Domain		35%	1.05%	$2,625,000.00	0.6563%
CAUTI	14.2857%	5.00%	0.15%	$375,000	0.0938%
C. Diff	14.2857%	5.00%	0.15%	$375,000	0.0938%
SSI (2)	14.2857%	5.00%	0.15%	$375,000	0.0938%
CLABSI	14.2857%	5.00%	0.15%	$375,000	0.0938%
MRSA	14.2857%	5.00%	0.15%	$375,000	0.0938%
PSI 90 (10)	14.2857%	5.00%	0.15%	$375,000	0.0938%
Sep_1	14.2857%	5.00%	0.15%	$375,000	0.0938%

	Cost Weight	Program Weight	IP Revenue at Risk (%)	IP Revenue at Risk ($)	Total Revenue at Risk (%)
PPC 3	0.5005	3.5668%	0.0357%	$89,171	0.0223%
PPC 4	1.5519	11.0596%	0.1106%	$276,491	0.0691%
PPC 7	1.1248	8.0159%	0.0802%	$200,398	0.0501%
PPC 9	1.0478	7.4672%	0.0747%	$186,679	0.0467%
PPC 16	1.5503	11.0482%	0.1105%	$276,206	0.0691%
PPC 28	0.3379	2.4081%	0.0241%	$60,201	0.0151%
PPC 35	1.4394	10.2579%	0.1026%	$256,448	0.0641%
PPC 37	1.5936	11.3568%	0.1136%	$283,920	0.0710%
PPC 41	0.9745	6.9448%	0.0694%	$173,620	0.0434%
PPC 42	0.4264	3.0387%	0.0304%	$75,969	0.0190%
PPC 47	0.7724	5.5045%	0.0550%	$137,613	0.0344%
PPC 49	0.4717	3.3616%	0.0336%	$84,039	0.0210%
PPC 60	0.8978	6.3982%	0.0640%	$159,955	0.0400%
PPC 61	0.2099	1.4959%	0.0150%	$37,396	0.0093%
PPC 67	1.1332	8.0758%	0.0808%	$201,894	0.0505%

Summary of Potential QBR R@R Options

	Option 1: QBR w/ Safety (2%)			Option 2: QBR w/o Safety (2%)			Option 3: QBR w/ Safety (3%)		
	Program Weight	IP Revenue at Risk (%)	Revenue at Risk ($)	Program Weight	IP Revenue at Risk (%)	Revenue at Risk ($)	Program Weight	IP Revenue at Risk (%)	IP Revenue at Risk ($)
PCE Domain	**50%**	**1%**	**$2,500,000**	**77.00%**	**1.54%**	**$3,850,000**	**50%**	**1.5%**	**$3,750,000.00**
HCAHPS TopBox (8)	22.5%	0.45%	$1,125,000	34.65%	0.693%	$1,732,500	22.5%	0.675%	$1,687,500
HCAHPS Consistency	7.5%	0.15%	$375,000	11.55%	0.231%	$577,500	7.5%	0.2%	$562,500
HCAHPS Linear (4)	7.5%	0.15%	$375,000	11.55%	0.231%	$577,500	7.5%	0.2%	$562,500
ED Wait Times	5%	0.10%	$250,000	7.70%	0.15%	$385,000	5%	0.15%	$375,000
TFU Medicare	2.5%	0.05%	$125,000	3.85%	0.077%	$192,500	2.5%	0.075%	$187,500
TFU Medicare Disparity Gap	2.5%	0.05%	$125,000	3.85%	0.077%	$192,500	2.5%	0.075%	$187,500
TFU Medicaid	2.5%	0.05%	$125,000	3.85%	0.077%	$192,500	2.5%	0.075%	$187,500
Clinical Care Domain	**15%**	**0.30%**	**$750,000**	**23.00%**	**0.46%**	**$1,150,000**	**15%**	**0.45%**	**$1,125,000.00**
IP Mortality	10%	0.20%	$500,000	15.3341%	0.3067%	$766,705	10.0005%	0.3000%	$750,037.50
THA/TKA	5%	0.10%	$250,000	7.6659%	0.1533%	$383,295	4.9995%	0.1500%	$374,962.50
Safety Domain	**35%**	**0.70%**	**$1,750,000**				**35%**	**1.05%**	**$2,625,000.00**
CAUTI	5%	0.1%	$250,000				5.00%	0.15%	$375,000
C. Diff	5%	0.1%	$250,000				5.00%	0.15%	$375,000
SSI (2)	5%	0.1%	$250,000				5.00%	0.15%	$375,000
CLABSI	5%	0.1%	$250,000				5.00%	0.15%	$375,000
MRSA	5%	0.1%	$250,000				5.00%	0.15%	$375,000
PSI 90 (10)	5%	0.1%	$250,000				5.00%	0.15%	$375,000
Sep_1	5%	0.1%	$250,000				5.00%	0.15%	$375,000