Final Recommendations for Updating the Quality-Based Reimbursement Program for Rate Year 2021

December 12, 2018

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This document contains the final staff recommendations for updating the Quality Based Reimbursement Program for RY 2021 as amended and approved by the Commission at the 12/12/18 meeting.

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LIST OF ABBREVIATIONS

CDC	Centers for Disease Control & Prevention
CAUTI	Catheter-associated urinary tract infection
CDIFF	Clostridium Difficile infection
CLABSI	Central line-associated blood stream infections
CMS	Centers for Medicare &e Medicaid Services
DRG	Diagnosis-related group
ED	Emergency department
FFY	Federal fiscal year
HCAHPS	Hospital Consumer Assessment of Healthcare Providers and Systems
HSCRC	Health Services Cost Review Commission
MRSA	Methicillin-resistant staphylococcus aureus
NHSN	National Health Safety Network
PQI	Prevention quality indicators
QBR	Quality-Based Reimbursement
RY	Maryland HSCRC Rate Year
SIR	Standardized infection ratio
SSI	Surgical site infection
THA/TKA	Total hip and knee arthroplasty risk standardized complication rate
VBP	Value-Based Purchasing

EXECUTIVE SUMMARY

This document puts forth RY 2021 Quality-Based Reimbursement (QBR) final policy recommendations that include maintaining the RY 2020 quality domains, scoring approach, and pre-set revenue adjustment scale. This final recommendation also proposes minimal changes to the program measures, as outlined below.

Final Recommendations for RY 2021 QBR Program

1. Implement the following **measure updates**:
    A. **Add the Total Hip Arthroplasty/Total Knee Arthroplasty Risk-Standardized Complication Rate measure** to the Clinical Care Domain, and weight the measure at 5% to align with the National VBP program**;**
    B. **Remove the PC-01 and ED-1b measures** commensurate with their removal from the CMS VBP and IQR programs respectively.
2. Continue **Domain Weighting** as follows for determining hospitals' overall performance scores: Person and Community Engagement - 50%, Safety (NHSN measures) - 35%, Clinical Care - 15%.
3. Maintain the **pre-set scale** (0-80% with cut-point at 45%), and continue to hold 2% of inpatient revenue at-risk (rewards and penalties) for the QBR program.
   Amendment: Establish cut-point of 41%.

INTRODUCTION

The Maryland Health Services Cost Review Commission's (HSCRC's or Commission's) Quality Based Reimbursement (QBR) program is one of several pay for performance initiatives that provide incentives for hospitals to improve patient care and value over time. Under the current five-year All-Payer Model Agreement between Maryland and the Centers for Medicare & Medicaid Services (CMS), effective through December 2018, there are specific quality performance requirements, including reducing Medicare readmissions to below the national average and reducing hospital complications by 30% over 5 years. Maryland is on target to meet or exceed both of these targets. The QBR program had no stated performance requirements in the All-Payer Model. However, the Commission has prioritized aligning the QBR program with the federal Value Based Purchasing (VBP) program and has attempted to encourage improvement in areas where Maryland has exhibited poor performance relative to the nation. As Maryland enters into a new Total Cost of Care (TCOC) Model Agreement with CMS on January 1, 2019, performance standards and targets in HSCRC's portfolio of quality and value-based payment programs will be updated. In the first year of the TCOC Model, staff will seek to revise two of the Commission's Quality programs, the Maryland Hospital Acquired Complications program and the Potentially Avoidable Utilization program, per directives from HSCRC Commissioners.[1] The QBR program will include new measures but will largely remain similar to prior iterations of the policy.

A central tenet of the healthcare reform in Maryland since 2014 is that hospitals are funded under Population Based Revenue, a fixed annual revenue cap that is adjusted for inflation, quality performance, reductions in potentially avoidable utilization, market shifts, and demographic growth. Under the Population Based Revenue system, hospitals are incentivized to transition services across the continuum of care and may keep savings that they achieve via improved quality of care (e.g., reduced avoidable utilization, readmissions, hospital acquired infections). On the other hand, constraining hospital resources can have unintended consequences, including declining quality of care. Thus, HSCRC Quality programs must reward quality improvements and reinforce the incentives of the Population Based Revenue system, as well as penalize poor performance and potential unintended consequences.

Maryland's exemptions from national quality programs are essential because the Population Based Revenue system benefits from having autonomous, quality-based measurement and payment initiatives that set consistent all-payer quality incentives. Furthermore, these exemptions afford Maryland the flexibility to select performance measures and targets in areas where improvement is needed, and allow Maryland to develop programs with greater potential for system transformation. For example, unlike the national VBP program, QBR does not

[1] In the fall of 2017, HSCRC Commissioners with staff support conducted several strategic planning sessions to outline priorities and guiding principles for the upcoming Total Cost of Care Model. Based on these sessions, the HSCRC developed a Critical Action Plan that delineates timelines for review and possible revisions of financial and quality methodologies, as well as other staff operations.

relatively rank hospitals, but instead provides all hospitals the opportunity to earn rewards, which are determined using a prospective revenue adjustment scale. Under the TCOC Model, the State will receive exemptions from the CMS Hospital Acquired Conditions (HAC) program, Hospital Readmission Reduction program (HRRP), and Value-Based Purchasing (VBP) program based on annual reports to CMS that demonstrate that Maryland's program results continue to be aggressive and progressive, meeting or surpassing those of the nation.

The QBR program measures and domains are similar to those of the VBP program, but there are a few differences. Most notably, QBR does not include an Efficiency domain, and HSCRC has put higher weight on the Person and Community Engagement and Safety domains to encourage improvement. Staff recommends retaining this approach for the final RY 2021policy. The HSCRC staff plans to expand the Potentially Avoidable Utilization (PAU) definition to incorporate other categories of unnecessary and avoidable utilization, and to incorporate other measures of efficiency based on per beneficiary measures.[2] In addition, the Medicare Performance Adjustment is also a measure of TCOC Efficiency that can be considered under the aggregate revenue at-risk across quality programs.

The HSCRC incorporates more comprehensive measures relative to the VBP program, most notably an all-cause, Maryland mortality measure versus VBP's condition-specific mortality measures, but generally the Commission tries to align the QBR program to measures of national import. For this reason, staff is recommending to incorporate into the RY 2021 QBR policy complication measures related to elective total hip and knee arthroplasties. Staff will also recommend to discontinue the use of various measures that will no longer have a federal data source (e.g., early elective delivery and emergency room wait time from time of arrival to admission), and staff will not recommend to adopt additional emergency room wait time measures at this time.

This report provides final recommendations for updates to Maryland's QBR program for Rate Year (RY) 2021. The QBR program has potential scaled penalties or rewards of up to 2% of inpatient revenue. Hospital's performance is assessed relative to national standards for its Safety and Person and Community Engagement domains. For the Clinical Care domain, the program uses Maryland-specific standards for the inpatient mortality measure, and proposes to use national standards for the new hip and knee complication measure.

[2] Maryland has implemented an efficiency measure in the Population Based Revenue system, based on a calculation of potentially avoidable utilization (PAU), but it has not made efficiency part of its core quality programs as a domain because the revenue system fundamentally incentivizes improved efficiency. PAU is currently defined as the costs of readmissions, and of admissions measured by the Agency for Healthcare Research and Quality Prevention Quality Indicators (PQIs).

BACKGROUND

The Affordable Care Act established the hospital Medicare Value-Based Purchasing (VBP) program,[3] which requires CMS to reward hospitals with incentive payments for the quality of care provided to Medicare beneficiaries. While the QBR program has many similarities to the federal Medicare VBP program, it differs in some ways as Maryland's unique Model Agreements and autonomous position allow the State to be innovative and progressive. Figure 1 below compares the RY 2020 QBR measures and domain weights to those used in the CMS VBP program.

Figure 1. RY 2020 QBR Measures and Domain Weights Compared with CMS VBP Programs[4]

	Maryland QBR Domain Weights and Measures	CMS VBP Domain Weights and Measures
Clinical Care	15% (1 measure: all cause inpatient Mortality)	25% (4 measures: 3 condition-specific Mortality, THA/TKA measure)
Person and Community Engagement	50% (8 HCAHPS measures, 2 ED wait time measure)	25% (Same HCAHPS measures, no ED wait time measures)
Safety	35% (6 measures: CDC NHSN HAI)	25% (7 measures: 6 CDC NHSN, PSI-90)
Efficiency	N/A	25% (Medicare Spending Per Beneficiary measure)

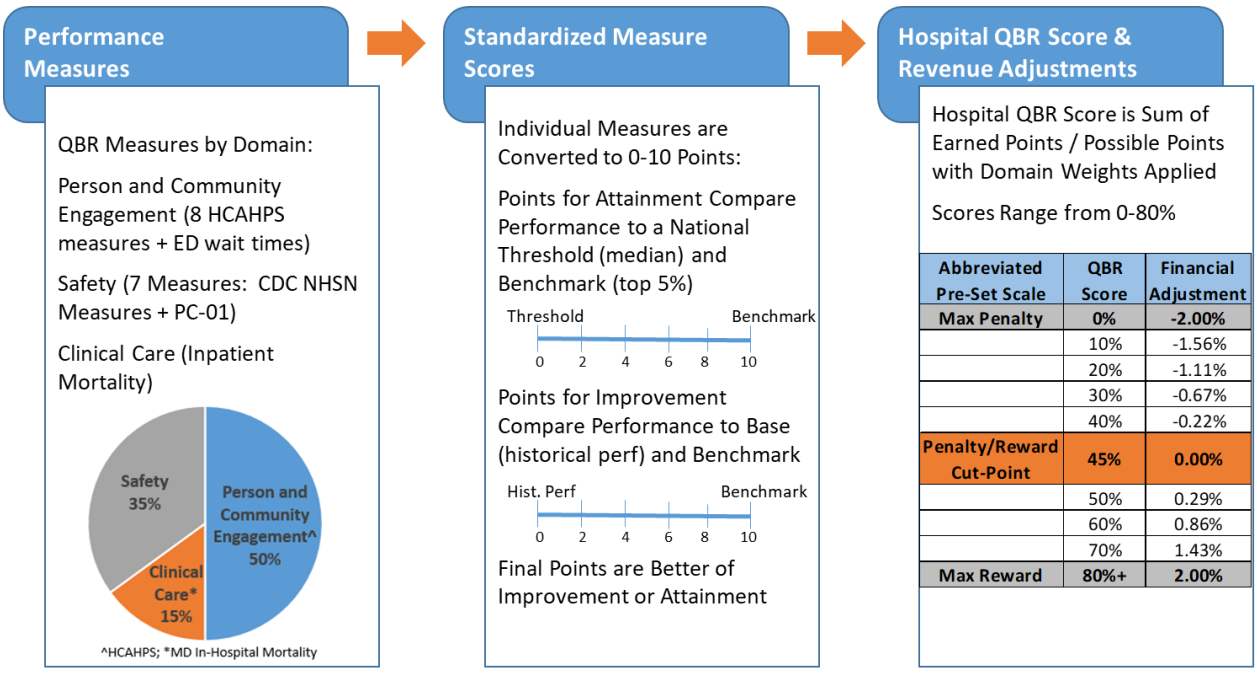
In the RY 2019 QBR recommendation, the Commission also approved moving to a preset scale based on national performance to ensure that QBR revenue adjustments are linked to Maryland hospital performance relative to the nation. Prior to RY 2019, Maryland hospitals were evaluated by national thresholds and benchmarks, but their scores were then scaled in accordance with Maryland performance, i.e., if the top performing hospital had an overall score of 57%, this became the high end of the scale by which all other Maryland hospitals were judged. This policy resulted in Maryland hospitals receiving financial rewards despite falling behind the nation in performance. Consequently, the scale is now 0 to 80% regardless of the highest performing hospital's score, and the cutoff by which a hospital earns rewards is 45%. This reward cutoff was based on an analysis of FFY 2017 data that indicated that the average national score using Maryland domain weights (i.e., without the Efficiency domain) was 41%; thus, the 45% incentivizes performance better than the nation.

[3] For more information on the VBP program, see https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/hospital-value-based-purchasing/index.html?redirect=/Hospital-Value-Based-Purchasing/

[4] Details of CMS VBP measures may be found at: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Measure-Methodology.html.

The methodology for calculating hospital QBR scores and associated inpatient revenue adjustments has remained essentially unchanged since RY 2019, and involves: 1) assessing performance on each measure in the domain; 2) standardizing measure scores relative to performance standards; 3) calculating the total points a hospital earned divided by the total possible points for each domain; 4) finalizing the total hospital QBR score (0-100%) by weighting the domains based on the overall percentage or importance the Commission has placed on each domain; and 5) converting the total hospital QBR scores into revenue adjustments using the preset scale that ranges from 0 to 80%, as aforementioned. The methodology is illustrated in Figure 2 below.

Figure 2. Process for Calculating RY 2020 QBR Scores



Abbreviated Pre-Set Scale	QBR Score	Financial Adjustment
Max Penalty	**0%**	**-2.00%**
	10%	-1.56%
	20%	-1.11%
	30%	-0.67%
	40%	-0.22%
Penalty/Reward Cut-Point	**45%**	**0.00%**
	50%	0.29%
	60%	0.86%
	70%	1.43%
Max Reward	**80%+**	**2.00%**

Appendix I contains further background and technical details about the QBR and VBP programs.

ASSESSMENT

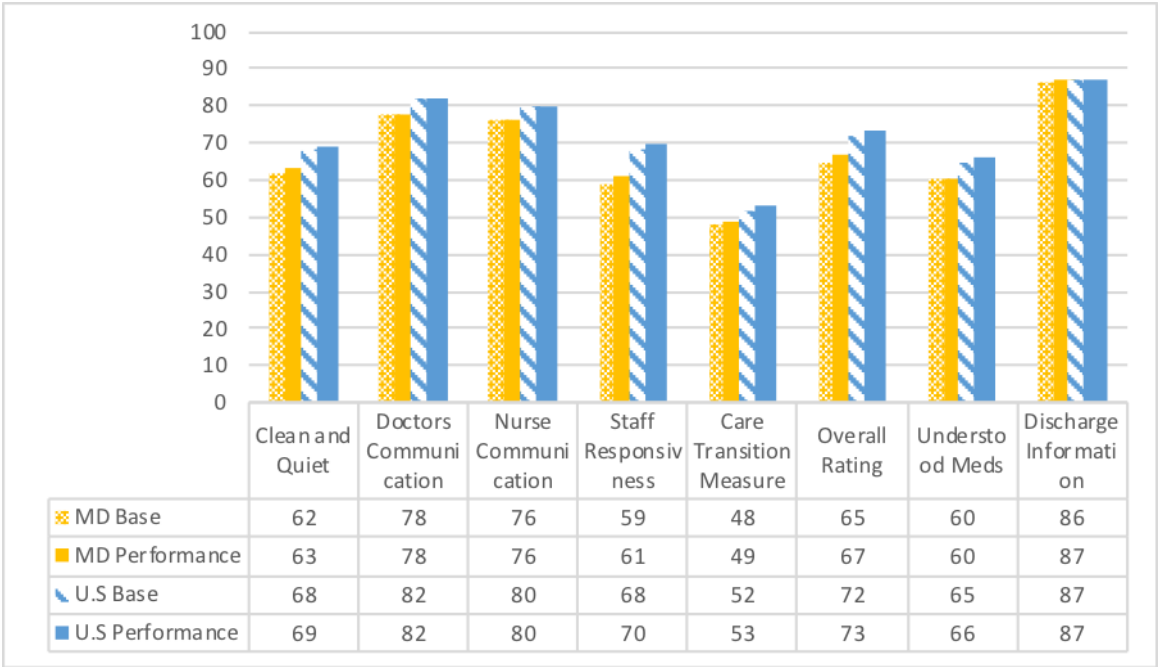
The purpose of this section is to assess Maryland's performance on current and potential QBR measures within each domain that, together with the deliberations of the Performance Measurement Workgroup (PMWG), serve as the basis for the recommendations for the RY 2021 QBR program. In addition, the staff have modeled the QBR revenue adjustments with the recommended changes.

Maryland Performance by QBR Domain

The **Person and Community Engagement** domain measures performance using the HCAHPS patient survey, as well as two emergency department wait time measures for admitted patients. The addition of the emergency department wait time measures is an example of Maryland's quality programs differing from the nation to target an area of concern.

Figure 3 provides the HCAHPS measure results for the RY2019 base and performance periods for Maryland and the Nation. It shows that Maryland improved by 1-3% on 5 out of 8 of the measures; however, the nation also improved on five of the measures. In summary, the gap between Maryland and the nation was reduced by approximately 1% for the "discharge information" measure and the "overall rating" measure; the gap between Maryland and nation for "understood medication" widened by 1% because Maryland's score remained constant and the nation improved; and for all other measures, the gap remained the same.

Figure 3. HCAHPS Results: Maryland Compared to the nationfor RY 2019



	Clean and Quiet	Doctors Communication	Nurse Communication	Staff Responsiveness	Care Transition Measure	Overall Rating	Understood Meds	Discharge Information
MD Base	62	78	76	59	48	65	60	86
MD Performance	63	78	76	61	49	67	60	87
U.S Base	68	82	80	68	52	72	65	87
U.S Performance	69	82	80	70	53	73	66	87

***Time period Calendar Year 2015 (Base); 10/2016 to 9/2017 (Performance)**

While the statewide data suggests that Maryland continues to lag behind the nation on HCAHPS measures, there is variability in performance across individual hospitals, with some performing better than the national average on each measure. Furthermore, while the statewide improvements were modest, there were individual hospitals with significant improvements on each measure (Appendix II).

It should be noted that hospital stakeholders have raised concerns about HCAHPS patient mix adjustment changes between the base and performance periods. CMS has advised staff that these changes occur on an ongoing basis, and that the most recent changes are not considered

materially significant for the VBP program. Further, staff believes that the changes in any given year may slightly benefit or disadvantage each hospital on their respective QBR scores, but recognize the use of the prospective preset scale may make this issue more of a concern in Maryland. Therefore, staff will evaluate the impact of the patient mix adjustment changes for RY 2019 and RY 2020, but does not support retrospective QBR revenue adjustments. Staff may re-visit this position with the Commission should analysis determine the patient mix adjustment changes are materially significant. For RY2021 it is unknown whether there will be any patient mix adjustment changes, but staff will assess any changes that occur.

Emergency department wait time measures have been publicly reported nationally on Hospital Compare since 2012 for patients admitted (ED-1b and ED-2b), and since 2014 for patients treated and released (OP-18b). Based upon Maryland's sustained poor performance on these ED throughput measures, the Commission voted to include the two ED Wait Time measures for admitted patients as part of the QBR program for RY 2020.[5] However, staff notes that the impact of adding the measures to the QBR program cannot be assessed at this time, since the data are lagged by 9 months and will not be available for the complete RY 2020 performance period until the fall of 2019. As the Hospital Compare quarterly data is released, staff will assess any emerging changes in the trends. The measure definitions are provided below in Figure 4.

Figure 4. CMS ED Wait Time Measures

Measure ID	Measure Title
ED-1b	Median time from emergency department arrival to emergency department departure for admitted emergency department patients
ED-2b	Admit decision time to emergency department departure time for admitted patient
OP-18*	Emergency department arrival time to departure time for discharged patients.

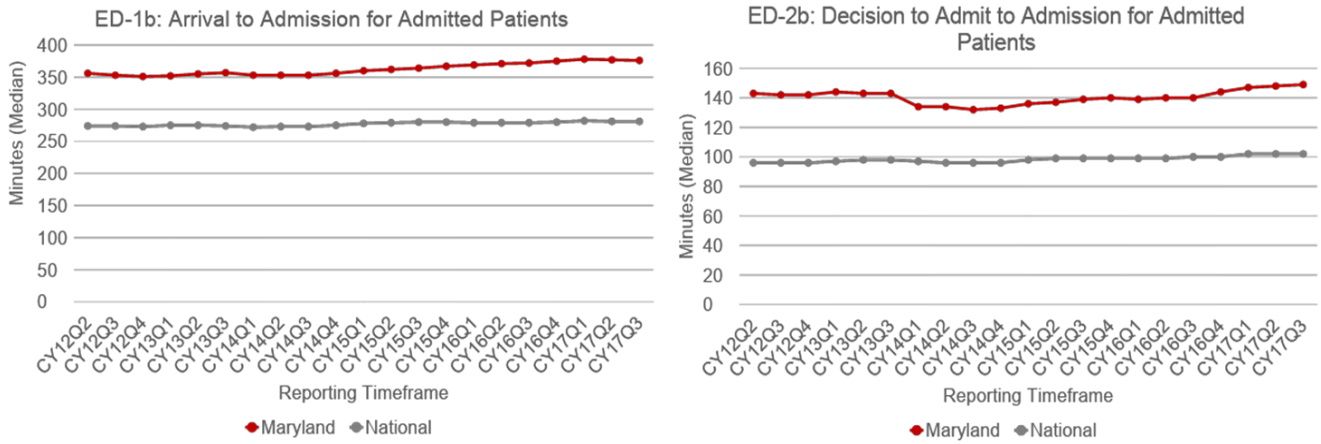
*OP-18 is not recommended to be a measure in the RY 2021 Program. OP-18b strata includes non-psychiatric patients and OP-18c strata includes psychiatric patients.

Based on the most current data available, Maryland continues to perform poorly on the ED wait time measures compared to the nation, as illustrated in Figure 4 below. At the hospital level, the most recent data show approximately 85% of Maryland hospitals perform worse than the national median in ED wait times.[6]

[5] Staff believes that poor ED wait times may also be contributing to less favorable hospital HCAHPS scores, based on analysis of statistical correlation done last year when the RY 2020 policy was adopted.

[6] 93% of Maryland hospitals perform worse than the nation in ED-1b, 78% perform worse than the nation in ED-2b, and 82% perform worse on OB-18b. The median wait times are adjusted based upon ED volume. These results are similar to the 80% reported in RY2020 policy.

Figure 5. Maryland Statewide ED Wait Time Trends for Admitted Patients Compared to the Nation, Q2 2012 to Q32017.



For RY 2021, staff recommends that the QBR program include only the ED-2b measure, as CMS has discontinued mandatory data collection for ED-1b after CY 2018. In the latest final rule, CMS removed or de-duplicated 39 measures from the hospital Inpatient Quality Reporting program to focus measurement on the most critical quality issues with the least burden for clinicians and providers. While ED-1b was removed from CMS reporting, it should be noted that the Joint commission has retained the measure and given statewide performance this is a more critical quality issue for Maryland than the nation.

Based on stakeholder interest last year and the removal of ED-1b, staff and the PMWG reconsidered whether to propose inclusion of OP-18 (non-admitted patients) for RY 2021. Maryland currently performs poorly on the wait time for non-admitted/discharged patients for both the non-psychiatric patients "b" strata measure, and the psychiatric patients "c" strata measure (OP-18c is newly added to Hospital Compare in latest public reporting release), as illustrated in Figure 6. Some stakeholders voiced support for inclusion of the OP-18b measure but others suggested the measure is at odds with hospitals' efforts to reduce inpatient admissions through ED care coordination.

Figure 6. Maryland Performance and National Benchmarks for ED Wait Times 10-1-2016 to 9-30-2017

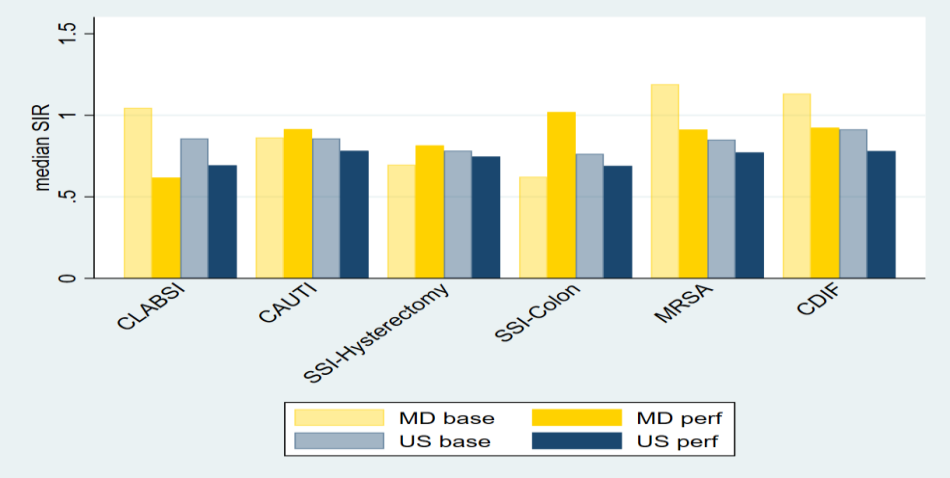
OP-18b (non-psychiatric patients)	MD	National
Low Volume	131	111
Moderate Volume	182	142
High Volume	190	161
Very High Volume	213	171
OP-18c (psychiatric patients)	**MD**	**National**
Low Volume	194	245
Moderate Volume	349	164
High Volume	324	218
Very High Volume	359	279

Based on this feedback, staff intends to actively monitor performance on the OP-18 measure (both OP-18b and OP-18c) over the next program year. Staff acknowledges that there are difficulties with the behavioral health system in the State, such as aging behavioral health system infrastructure and labor shortages, which exacerbate emergency department throughput problems. However these issues are not unique to Maryland. Furthermore, staff believes that continuing to include the measure of admit decision time to emergency department departure time for admitted patients will have spillover effects on outpatient emergency department wait times. However, if improvements are not seen in outpatient ED wait times, staff will reconsider a proposed recommendation for inclusion of OP-18b next year. Staff will pay particular attention to this issue in light of the fact that Maryland's higher wait times are paired with declining statewide ED visits.

Based on the analysis of the Person and Community Engagement domain, HSCRC staff recommends continuing to weight this domain at 50% of the QBR score, and retaining the ED-2b measure along with HCAHPS in the domain.

The **Safety** domain consists of six CDC National Health Safety Network (NHSN) healthcare associated infection (HAI) measures, and one measure of perinatal care (PC-01 Early Elective Delivery). Staff does not recommend any changes to this domain in RY 2021 beyond discontinuance of the PC-01 measure, which is being removed from the VBP program for FY 2021 due to relatively high performance of all hospitals. As illustrated in Figure 7 below, Maryland's performance on the NHSN measures has been mixed (lower scores are better). While median hospital standardized infection ratios (SIR) for all six HAI categories declined nationally during the performance period, Maryland hospitals experienced higher SIRs in three out of six of the infection categories. However, for the three infections in which Maryland hospitals also experienced declining standardized rates in the base period, the declines in Maryland were larger than national peers.

Figure 7. Maryland vs. National Median Hospital SIRs on NHSN HAI Safety Measures (Base period Calendar Year 2015, Performance period October 1, 2016 to September 30, 2017)

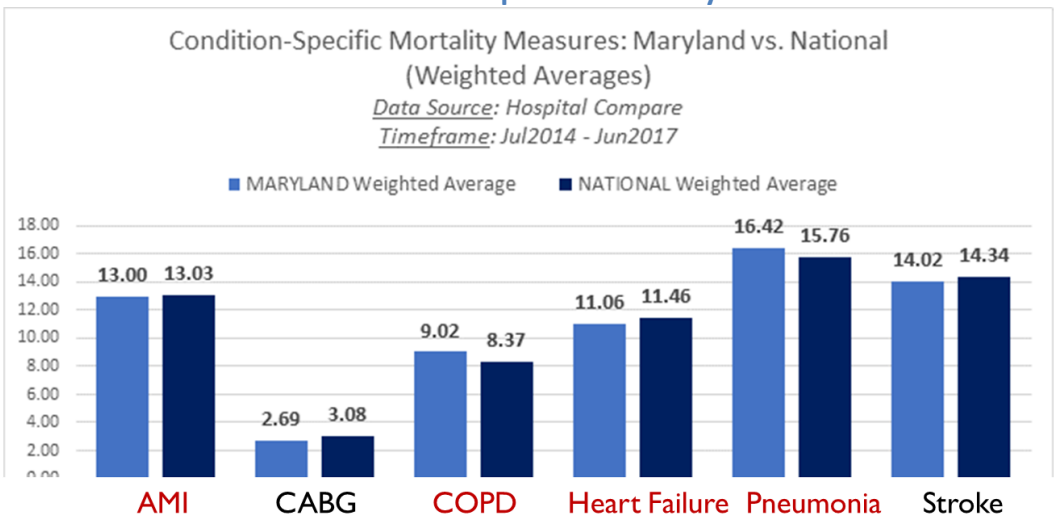


The QBR **Safety** domain does not include the Patient Safety Index Composite (PSI-90) measure that is included in VBP. Currently, the Agency for Healthcare Research and Quality (AHRQ) has yet to release a PSI-90 risk-adjustment methodology under ICD-10 for all payers. The HSCRC plans to consider options for re-adopting the PSI-90 composite measure on an all-payer basis as soon as the risk-adjustment is available. To this end, staff intends to vet with stakeholders the PSI composite measure in context of the QBR and MHAC complications programs as we consider its use under the TCOC Model starting in RY 2022.

Staff recommends continuing to weight the Safety domain at 35% of the total QBR score.

The QBR **Clinical Care** domain consists of one all-payer, all-cause inpatient mortality measure in the QBR program, while the federal Medicare VBP program measures four 30-day condition-specific Mortality measures (Heart Attack, Heart Failure, Pneumonia and COPD), as well as a Total Hip and Knee Arthroplasty (THA/TKA) complication measure on patients with elective primary procedures. Medicare also monitors two additional mortality measures for Coronary Artery Bypass Graft and Stroke, but does not include these measures in VBP. Based on the data obtained from Health Quality Innovators, Maryland performs similarly to the nation for all condition-specific measures of 30-day mortality (Figure 9).

Figure 9. Maryland Hospital Performance Compared with the nationon CMS Condition-Specific Mortality Measures

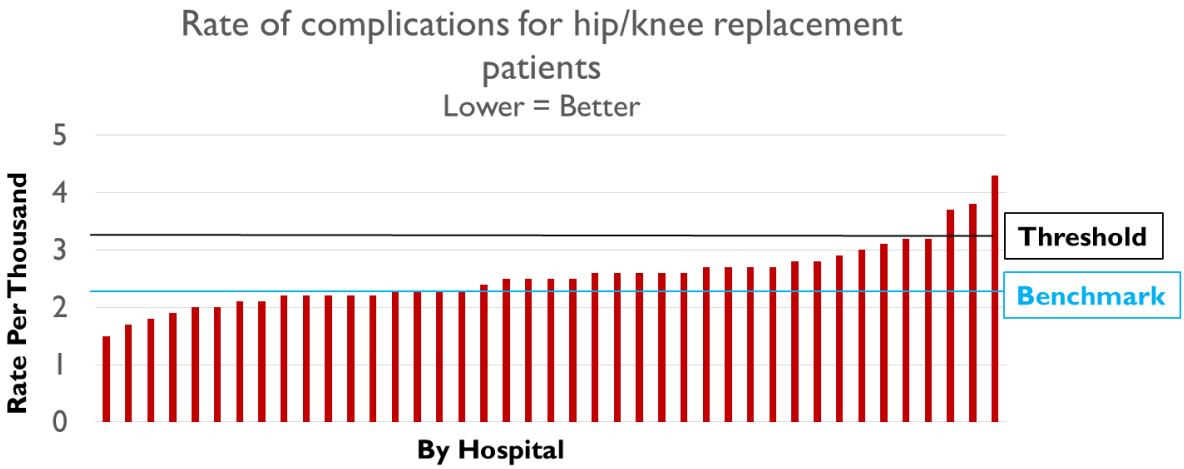


Source: Health Quality Innovators (HQI). Red are conditions included in VBP.

In terms of performance on the QBR inpatient mortality measure, 25 hospitals have shown a decrease in their risk-adjusted inpatient mortality rate through June 2018 compared to the RY2020 base period. An additional 7 hospitals have mortality rates that are better than the 95th percentile of state performance in the base period (i.e., they have exceeded the statewide benchmark and would earn full 10 points if performance continued through end of 2018). Finally, 8 hospitals that did not improve earned at least one attainment point for performance greater than the statewide average (i.e., threshold) during the base period.

For the hip and knee complication measure, Figure 10 illustrates that of the hospitals that qualify for the measure, all but 3 hospitals perform better than the current VBP threshold, and close to half of the hospitals perform better than the benchmark, but variation in performance remains. To qualify for the hip and knee complication measure a hospital must perform a minimum of 25 elective primary procedures.

Figure 10. Maryland THA/TKA Measure Performance Compared to VBP Standards, Base Period April 2011-March 2014, Performance Period April 2016-March 2019



Staff notes that adding the hip and knee complication measure to the QBR program is consistent with the goals of the TCOC model, namely expanding beyond the initial hospital stay since complications measured may occur up to 90 days postoperatively.

Staff recommends including the hip and knee replacement measure in the Clinical Care domain consistent with the VBP program, and continuing to weight the Clinical Care domain at 15%[7].

Appendix III details the available published performance standards (for VBP measures) for each measure by domain for RY2021; staff will calculate and disseminate the inpatient mortality standards within the next two months when v. 36 of the APR DRG grouper is implemented.

The Assessment section outlines Maryland's performance for available measures, and highlights those proposed for RY 2021. Appendix IV contains additional discussion of the QBR program and potential future changes under the Maryland Total Cost of Care Model.

Revenue Adjustment Modeling

HSCRC staff modeled hospital QBR scores and revenue adjustments consistent with the preset scaling approach approved for RY 2020. With the exception of the HSCRC-derived measures, the thresholds and benchmarks for the QBR scoring methodology are based on the national average (threshold) and the top performance (benchmark) values for all measures. A score of 0% means that performance on all measures are below the national average or not improved, while a score of 100% means all measures are at or better than the top 5% best performing rates. The

[7] If a hospital does not qualify for THA/TKA measure, then mortality will remain weighted at 15%.

Commission moved to a preset scale that reflects a full distribution of potential scores and raised the reward potential to 2% of inpatient revenue for RY 2019. Given Maryland's mixed performance relative to the nation, staff believes that the more aggressive scaling is warranted and proposes to continue this scale for RY 2021 QBR program.

This preset scale uses a modified full score distribution ranging from 0% to 80%, and sets the reward/penalty cut-point at 45%. The 45% cutoff was originally established by estimating the national average VBP scores for FFY2017 without the efficiency domain and with RY 2017 Maryland QBR-specific weights applied, which was 41%. Therefore, HSCRC staff recommended 45% as the cut-point for RY 2019 in order to establish an aggressive bar for receiving rewards. This analysis was updated for FFY 2016 through FFY 2018 (FFY 2019 data not yet publicly available) using the proposed RY2021 QBR domain weights, and the average national scores were relatively consistent at 42% for FFY16, 40% FFY17, and 42% FFY18. Staff plan to analyze FFY2019 results when publicly available to assess national average scores and may use this as basis to decide whether the HCAHPS patient mix adjustment changes are significant.

Staff modeled hospital scores for RY 2021 QBR using the aforementioned preset scale with a cutoff point of 45% and RY 2019 data using the base period of calendar year 2015, and the performance period of Q4 2016-Q3 2017. In order to assess the impact of removed measures and the addition of THA/TKA, the results of the following two models are provided:

- Model 1: Removal of PC-01 and Removal of ED-1b
- Model 2: Same as above, and addition of THA/TKA measure

Hospital-specific domain scores and total QBR scores for both models are included in Appendix V. The modeled hospital-specific and statewide revenue impacts are found in Appendix VI. With ED-1b and PC-01 excluded, 4 hospitals receive rewards of approximately $427 thousand and the remaining hospitals receive penalties of approximately $69 million. With the THA/THA included, 4 hospitals receive rewards of approximately $485 thousand, and the remaining hospitals receive penalties of approximately $64 million.

STAKEHOLDER COMMENTS AND RESPONSES

HSCRC Commissioners as well as hospital industry, payer and physician stakeholders have given verbal and written comments to HSCRC staff regarding the RY 2021 QBR program, applicable both in the short term, and as it evolves under the new TCOC Model. Staff summarizes the comments and responses below and the comment letters are included in Appendix VII.

OVERALL CONCERNS

The letter from MHA states that the **QBR policy is generally flawed** because the data on performance is delayed (9 month lag after performance period before data is available), the patient experience HCAHPS measures are difficult to improve upon, the infection measures are

volatile because of the low volume of events, and national concerns have been raised about the adequacy of the risk adjustment and measure data validation.

Staff Response:

Staff notes that the concerns raised about the QBR policy are all issues that impact the national VBP program and have been debated in previous QBR policies. Stakeholders must keep in mind that Maryland must meet or exceed performance levels in quality and cost under our Model agreement with CMS. Specifically, each year Maryland must submit to CMS our outcomes on VBP and other quality measures to receive an annual exemption from the CMS VBP program. While Maryland could maintain the all-payer rate setting system without this exemption, Maryland hospitals could be required to participate in the national VBP program. Under the VBP program, all US hospitals are held accountable to performance levels on the HCAHPS and NHSN measures.

Additionally, in response to specific concerns raised in this year's letter from MHA, staff notes that while the data is delayed for public posting on Hospital Compare, hospitals have access on a timelier basis to the data they submit to CMS as well as the data associated with the inpatient mortality measure that is calculated by the HSCRC. Thus, there is data during the performance period that can be used for quality improvement. Next, while the HCAHPS measures at a statewide level have shown only small improvements, there have been significant improvements at select hospitals. Appendix II shows hospital changes for RY 2019.

MEASURE UPDATES

During the November Commission meeting, some Commissioners raised concerns at the continued excessive **ED Wait Times** in Maryland compared to the Nation. Their concern centered on the ability to put the appropriate incentives in place, especially with the removal of the ED 1-b measure (wait time from arrival to admission) from the QBR program[8]. The OP 18-b measure (wait time from arrival to departure for patients not admitted) was also discussed as a possible consideration for use in the QBR program. Commissioners also inquired about the status of the Efficiency Improvement Action Plans that certain hospitals with the longest wait times were requested to submit earlier this year. The Maryland Chapter of the American College of Emergency Physicians (MD ACEP) continues to support the inclusion of the ED 2-b measure in light of extended wait times, but voiced concern in their letter regarding the addition of OP 18-b in the payment program because of time needed for care coordination to avoid admissions. As expressed last year, Johns Hopkins Hospital continues to raise concerns regarding inclusion of the one remaining ED 2-b measure (wait time from decision to admit to admission) due to occupancy rate impacts at their hospital, and behavioral health systems concerns.

[8] Data for the ED 1-b measure will no longer be available from Hospital Compare after CY 2018 because of the measure's discontinuance in the hospital Inpatient Quality Reporting program.

Staff Response:

Staff notes that, due to the data lag, the impact of adding the ED 1-b and 2-b measures to the RY 2020 QBR program, and potential spillover impacts on OP 18-b, are not yet known. Staff conducted preliminary analysis of one quarter of data from the RY 2020 QBR performance period after the draft policy was released, which reveals there may be marginal improvements on the measures for about half of the hospitals but cautions that one quarter of data is insufficient for evaluating performance trends. Moreover, the RY 2020 QBR program was not approved by Commissioners until December 2017, 2 months after the start of the performance period, so it would be difficult to suggest that the first three months of the performance period were impacted by the Commission decision to include ED wait time measures.

Regarding the hospital high occupancy rate and behavioral health system impact concerns raised at the November Commission meeting and by JHH in their letter, staff notes that the bar is not aggressive for this measure as hospitals receive full credit for the measure if they reach the national median. Additionally, there are protections to ensure that as long as the hospital improves on ED wait times, they are not hurt by the measure's inclusion in the policy. Staff notes that the literature demonstrates that decreases in hospital wait times for admitted patients is achievable, as is a decrease in the rate of patients that leave without being seen, when hospitals improve their inpatient efficiency and throughput.[9] In addition, staff believes that the stratification of hospital wait time measures by ED volume will further mitigate some of these concerns.

Regarding the addition of OP 18-b, staff supports monitoring of the measure but does not recommend adding the measure to the QBR program in light of hospitals' continued efforts to prevent avoidable admissions and employ care coordination activities in the ED. However if OP-18b does not improve over time as care coordination becomes more efficient, the staff may recommend inclusion of this measures in the RY 2022 QBR program.

Regarding the Efficiency Improvement Action Plans, 13 hospitals submitted Plans that described a wide variety of approaches, including efforts to change care processes, enhance facilities, and improve staffing. For example:

- **Union Hospital of Cecil County in 2016 sought to move low-acuity patients more quickly through the ED by including a provider in the triage process.**

[9]Artenstein, Andrew, MD, et al., Decreasing Emergency Department Walkout Rate and Boarding Hours by Improving Inpatient Length of Stay, West J Emerg Med. 2017 Oct; 18(6): 982–992., Last accessed: December 4, 2018.

Additionally, UHCC developed a marketing plan to encourage non-emergent patients to use affiliated urgent care centers rather than the ED, and organized a workgroup to address delays in diagnostic imaging.

- **University of Maryland Medical Center (UMMC) stationed a medical admitting officer in the ED 16 hours per day, and staffs an RN flow coordinator position to work with physicians on improving patient flow. The hospital has also partnered with the UM School of Nursing on an urgent care strategy, and opened an urgent care center across the street from the ED to handle low-acuity patients.**
- **Medstar Harbor instituted the ED FlexCare program, which routes non-emergent patients to primary care treatment options. The hospital also developed a "vertical care" track within the ED, in which intermediate-acuity patients remain seated for the duration of their stay, freeing ED beds for higher-acuity patients.**

Since the Plans were qualitative in nature, staff is determining the best way going forward to evaluate such information, and will again analyze ED wait time trends as the data becomes available.

Staff continues to support the use of ED 2-b in QBR program with its focus on hospital efficiencies to move patients to inpatient beds once the decision is made for admission.

The **addition of the hip and knee arthroplasty complication measure** to align with the CMS VBP program was generally supported by the hospitals and insurers. A concern was raised by Johns Hopkins Hospital related to deliberate actions to move uncomplicated hip and knee replacement surgeries to community hospitals within their system so the hospital does not have sufficient volume to qualify for the measure. As specified in the draft policy, JHH notes that hospitals that do not qualify for the hip and knee measure will have the inpatient mortality measure weighted at the full 15% of the Clinical Care domain. JHH recommended that the Commission consider attributing other system hospitals' scores to them for the QBR program. JHH also recommended that the Commission **consider in future years adopting the Medicare 30 day condition-specific mortality measures** in lieu of the all-payer, all condition inpatient mortality measure currently used in the QBR measure. Furthermore, JHH raises concerns regarding the inclusion of palliative care cases in the inpatient mortality measure and the inadequacy of the risk-adjustment.

Staff Response:

Staff continues to support general alignment with the national VBP program by adopting the hip/knee complication measure. With regard to the concern raised by Johns Hopkins, staff does not support giving credit for other system hospitals' performance, as this does not align with the measurement approach of the national program. Staff notes that at 5%, the measure is not heavily weighted; staff also does not believe the re-weighting of the inpatient mortality measure to the full 15%

of the Clinical Care domain justifies departing from the national measurement approach by attributing other system hospitals' scores to the academic facility with insufficient case volume. Staff adds that the Clinical Care domain is weighted at 15%, which is 10% less than the national VBP program.

Regarding the use of the Medicare 30 day condition-specific measures in lieu of the all payer measure in the future, staff notes that the Commission is working with contractors to develop a 30 day all-payer all condition mortality measure and will consider the Medicare mortality measures for future use as well.

In terms of the JHH concerns regarding the inclusion of palliative care cases, the staff remind the Commission that this was done to more accurately assess improvement as the use of palliative care was increasing. However, when assessing attainment the staff recognized the need to risk-adjust for palliative care status. In terms of the inadequacy of the risk-adjustment, staff is unclear as to the issues with the current risk adjustment but would be willing to discuss concerns and how they could be addressed in future years. Options for consideration include a) going back to the hybrid approach from RY 2019 that assessed improvement with palliative care included and attainment without palliative care, b) moving to an attainment only model with an exclusion for palliative care, or c) revising the risk adjustment. Finally, despite these concerns staff also notes that one hospital did report that including palliative care patients in the measure has incentivized them to work with nursing homes to provide better care within the nursing home for patients receiving end of life care.

SCORING AND REVENUE ADJUSTMENTS

Various hospital stakeholders (MHA, Medstar, UMMS) indicated they believe that the **aggressive payment scale is overly punitive** and that this is **amplified by the domain weights** we use for QBR. Specifically, hospital stakeholders point out that the **reward/penalty cut point** is too aggressive at 45% and resulted in RY 2019 with all but two hospitals receiving penalties. Thus, stakeholder input recommends that the QBR program should align the payment scale with the national VBP (Medstar, MHA, UMMS). Based on the most recently available data, the national average score, and hence the cut point, would be 41% with Maryland measurement domains weights applied, and 37% with national domain weights applied (Medstar).

Commenters had varying perspectives on the measurement domain weights that should be used in the QBR program. The MHA letter and others also state that the higher weight on HCAHPS has not resulted in improvement relative to the nation. Payer stakeholders (CareFirst) support keeping the domain weights as focus on needed improvement areas in Maryland, while hospital stakeholders (MHA, Medstar and UMMS) support re-weighting the measurement domains to align with the VBP program. Regarding the **amount of revenue at risk for performance**, MHA raises concerns that the amount is substantially larger in Maryland programs compared to the national programs and supports lowering the amount to levels more comparable to the

national programs, with consideration for the Medicare Performance Adjustment (MPA) in addition to the other quality adjustments.

Staff Response:

Staff believes that to compare scores you must adjust the domain weighting to be consistent across Maryland and the nation. As such, staff reweighted the national scores for FFY 2016 through FFY 2018 and found the average score range was 40%-42%. Staff does not believe that the 37% average score for the Nation (derived using national domains and weights) is an appropriate comparison since Maryland does not have the efficiency domain, which in FFY 2018 was the domain with the worst average scores and thus lowers the overall VBP average score. Regardless, even if the 37% cut point were to be used, FFY 2019 performance data from CMMI on the VBP measures for Maryland hospitals indicates that 34 hospitals would be penalized.

Staff believes under a prospective system an improvement factor should be added to the cut point but recognizes that the 45% cut point is aggressive and penalizes more hospitals than the VBP program. However, the number of hospitals penalized does not reflect the size of potential penalties Maryland hospitals could receive under the VBP program. As a reminder the VBP program uses a linear scale to assign rewards or penalties up to 2% by relatively ranking hospitals. Staff notes that of the 34 hospitals that would be estimated to receive VBP penalties, approximately half of them have scores in the lowest quartile of national performance and as such could receive significant penalties.

Next, staff agrees with Carefirst that the domain weights should emphasize areas of needed improvement in Maryland, most notably HCAHPS, and does not support the industry's recommendation to weight the domains equally. Staff has recently been informed about and is encouraged by hospital pilots that have been newly established for improving HCAHPS. Staff believes, therefore, that a long-term consistent policy is needed to emphasize the importance of these measures and to incentivize further investments. Moreover, reducing the weight on HCAHPS now would send the incorrect message to Maryland hospitals, especially hospitals that are engaging in pilot programs to improve their HCAHPS performance, and would be difficult to justify to CMS when requesting a waiver from CMS VBP.

Staff acknowledge the need for a more comprehensive analysis and comparison between Maryland's aggregate at-risk for performance based payments and the nation's aggregate at-risk. Staff looks forward to working with consumers, payers, and hospitals to help balance hospital concerns of high revenue at-risk on Medicare with the importance of continued quality improvement and revenue at-risk for all other consumers and payers. As part of this conversation, supplemental analyses may consider looking at how payers in other states implement their own revenue at-risk policies that are not included in the national Medicare numbers. The

Commission may consider revisiting the revenue at-risk in the RY 2021 policies in light of these conversations.

In addition, staff notes that the Maryland aggregate at-risk test is not the same as the MHA provided analysis. HSCRC is responsible for ensuring Maryland meets the current all-payer inpatient revenue aggregate at-risk tests agreed to by CMS. The numbers staff have currently calculated, illustrated below in Figure XX, are based on the percent of inpatient revenue potentially at-risk and the absolute dollar value exchanged based on quality. This differs from MHA's calculations that present the percent of total hospital charges, although staff does not believe this is the only difference between our estimates and MHA's, and will continue to work to identify other discrepancies. As a reminder, the all-payer nature of the Maryland quality programs is critical as it enables the state to receive waivers from the national quality programs, allowing for state innovations such as preset scaling and opportunities for rewards.

Figure 11. HSCRC Estimate of Maryland Compared to Medicare Potential and Realized Revenue at Risk for Quality Programs

CURRENT TEST	Maryland All-Payer Inpatient Revenue (State Fiscal Year 2019)		National Medicare Inpatient Revenue (Federal Fiscal Year 2018)	
	Maximum adjustment (potential risk)[1]	Actual adjustment (realized risk)[2]	Maximum adjustment (potential risk)[1]	Actual adjustment (realized risk)[2]
QBR/VBP, Complications, readmissions	6%	1.47%	6%	1.33%
PAU savings (cumulative)	5.81%	3.57%	N/A	N/A
MPA (begins in FY2020)[3]	N/A	N/A	N/A	N/A
Total	11.81%	5.04%%	6%	1.33%

[1] Maximum revenue at-risk (aka potential) is the absolute value of the largest penalty or reward a hospital could receive in a specific fiscal year for a program. Commission sets these values for the three core quality programs and the MPA, but not PAU savings, which is defined as the largest non-outlier adjustment received by a hospital.
[2] Actual adjustments (Realized at-risk) are calculated as the average of the absolute value of all inpatient adjustments for that program.
[3] As noted in the MHA table, the MPA adjustments do not begin until FY 2020, so the MPA is not included in the potential risk for RY 2019

As part of HSCRC negotiations to agree on aggregate at-risk calculations for the Total Care of Cost Model, CMMI has indicated concern with the use of cumulative PAU savings numbers instead of net PAU savings numbers. While this calculation is still under discussion, preliminary staff analyses indicate that it will be difficult to justify continuing to use the cumulative PAU savings numbers every year, as the cumulative amount does not represent additional annual revenue at-risk based on quality. Figure 12 below illustrates the same data as the previous table but with net PAU savings instead of cumulative savings. In the updated table, Maryland potential and realized risk is still above the national numbers.

Figure 12. HSCRC Estimate of Maryland Compared to Medicare Revenue at Risk for Quality Programs, with Net PAU Savings

POTENTIAL FUTURE TEST USING RY19	Maryland All-Payer Inpatient Revenue (State Fiscal Year 2019)		National Medicare Inpatient Revenue (Federal Fiscal Year 2018)	
	Maximum adjustment (potential risk)[1]	Actual adjustment (realized risk)[2]	Maximum adjustment (potential risk)[1]	Actual adjustment (realized risk)[2]
QBR/VBP, Complications, readmissions	6%	1.47%	6%	1.33%
PAU savings (net)	2%	0.61%	N/A	N/A
MPA (begins in FY2020)[3]	N/A	N/A	N/A	N/A
Total	8%	2.08%	6%	1.33%

[1] Maximum revenue at-risk (aka potential) is the absolute value of the largest penalty or reward a hospital could receive in a specific fiscal year for a program. Commission sets these values for the three core quality programs and the MPA, but not PAU savings, which is defined as the largest non-outlier adjustment received by a hospital.
[2] Actual adjustments (Realized at-risk) are calculated as the average of the absolute value of all inpatient adjustments for that program.
[3] As noted in the MHA table, the MPA adjustments do not begin until FY2020, so the MPA is not included in the potential risk for RY2019

FINAL RECOMMENDATIONS FOR RY 2021 QBR PROGRAM

Based on the staff assessment and stakeholder deliberations to date, staff proposes that the Commission consider the final recommendations below.

1. Implement the following m**easure updates**:
    A. **Add the Total Hip Arthroplasty/Total Knee Arthroplasty (THA/TKA) Risk-Standardized Complication Rate measure** to the Clinical Care Domain, and weight the measure at 5% to align with National VBP program;
    B. **Remove the PC-01 and ED-1b measures** commensurate with their removal from the CMS VBP and IQR programs respectively;
2. Continue **Domain Weighting** as follows for determining hospitals' overall performance scores: Person and Community Engagement - 50%, Safety (NHSN measures) - 35%, Clinical Care - 15%.
3. Maintain the **pre-set scale** (0-80% with cut-point at 45%), and continue to hold 2% of inpatient revenue at-risk (rewards and penalties) for the QBR program.
4. Maintain the **pre-set scale** (0-80% with cut-point at 45%), and continue to hold 2% of inpatient revenue at-risk (rewards and penalties) for the QBR program.
    Amendment: Establish cut-point of 41%.

APPENDIX I. HSCRC QBR PROGRAM BACKGROUND

The Affordable Care Act established the hospital Medicare Value-Based Purchasing (VBP) program,[10] which requires CMS to reward hospitals with incentive payments for the quality of care provided to Medicare beneficiaries. The program assesses hospital performance on a set of measures in Clinical Care, Person and Community Engagement, Safety, and Efficiency domains. The incentive payments are funded by reducing the base operating diagnosis-related group (DRG) amounts that determine the Medicare payment for each hospital inpatient discharge.[11] The Affordable Care Act set the maximum penalty and reward at 2% for federal fiscal year (FFY) 2017 and beyond.[12]

Maryland's Quality-Based Reimbursement (QBR) program, in place since July 2009, employs measures that are similar to those in the federal Medicare VBP program, under which all other states have operated since October 2012. Similar to the VBP program, the QBR program currently measures performance in Clinical Care, Safety, and Person and Community Engagement domains, which comprise 15%, 35%, and 50% of a hospital's total QBR score, respectively. For the Safety and Person and Community Engagement domains, which constitute the largest share of a hospital's overall QBR score (85%), performance standards are the same as those established in the national VBP program. The Clinical Care Domain, in contrast, uses a Maryland-specific mortality measure and benchmarks. In effect, Maryland's QBR program, despite not having a prescribed national goal, reflects Maryland's rankings relative to the nation by using national VBP benchmarks for the majority of the overall QBR score.

In addition to structuring two of the three domains of the QBR program to correspond to the federal VBP program, the Commission has increasingly emphasized performance relative to the nation through benchmarking, domain weighting, and scaling decisions. For example, beginning in RY 2015, the QBR program began utilizing national benchmarks to assess performance for the Person and Community Engagement and Safety domains. Subsequently, the RY 2017 QBR policy increased the weighting of the Person and Community Engagement domain, which is measured by the national Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey instrument to 50%[13]. The weighting was increased in order to raise incentives for HCAHPS improvement, as Maryland has consistently scored in the lowest decile nationally on these measures.

While the QBR program has many similarities to the federal Medicare VBP program, it does differ because Maryland's unique Model Agreements and autonomous position allow the State to

[10] For more information on the VBP program, see https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/hospital-value-based-purchasing/index.html?redirect=/Hospital-Value-Based-Purchasing/
[11] 42 USC § 1395ww(o)(7).
[12] 42 USC § 1395ww(o)(7)(C).
[13] The HCAHPS increase reduced the Clinical Care domain from 20% to 15%.

be innovative and progressive. Figure 13 below compares the RY 2020 QBR measures and domain weights to those used in the CMS VBP program.

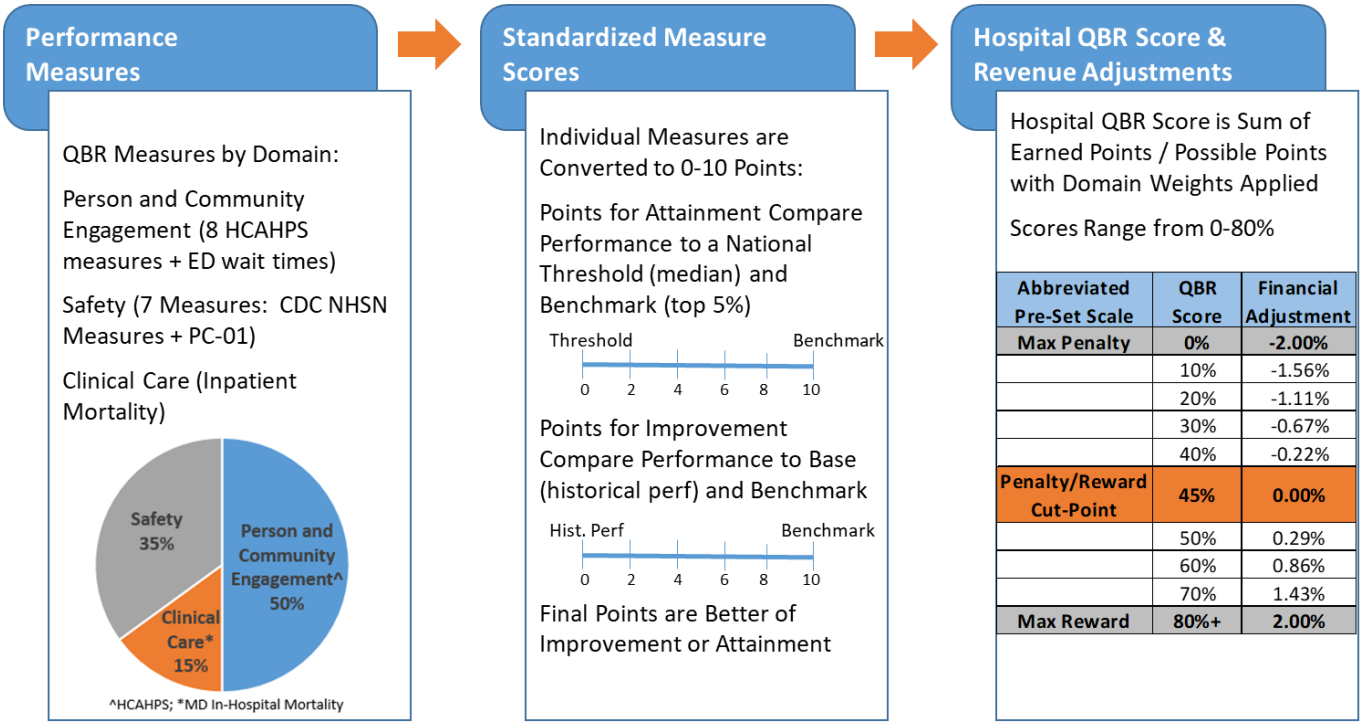
Figure 13. RY 2020 QBR Measures and Domain Weights Compared with CMS VBP Program[14]

	Maryland QBR Domains and Measures	CMS VBP Domain Weights and Measure Differences
Clinical Care	15% (1 measure: all cause inpatient Mortality)	25% (4 measures: condition-specific Mortality, THA/TKA Complication)
Person and Community Engagement	50% (8 HCAHPS measures, 2 ED wait time measures)	25% Same HCAHPS measures, no ED wait time measures
Safety	35% (7 measures: CDC NHSN, PC-01)	25% (8 measures: CDC NHSN, PC-01, PSI-90)
Efficiency	N/A	25% (Medicare Spending Per Beneficiary measure)

The methodology for calculating hospital QBR scores and associated inpatient revenue adjustments has remained essentially unchanged since RY 2019, and involves: 1) assessing performance on each measure in the domain; 2) standardizing measure scores relative to performance standards; 3) calculating the total points a hospital earned divided by the total possible points for each domain; 4) finalizing the total hospital QBR score (0-100%) by weighting the domains based on the overall percentage or importance the Commission has placed on each domain; and 5) converting the total hospital QBR scores into revenue adjustments using the preset scale that ranges from 0 to 80%, as aforementioned. The methodology for RY 2020 is illustrated in Figure 14 below.

[14] Details of CMS VBP measures may be found at: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Measure-Methodology.html.

Figure 14. Process for Calculating RY 2020 QBR Scores



Domain Weights and Revenue At Risk

As illustrated in the body of the report, for the RY 2021 QBR program, the HSCRC proposed to weight the clinical care domain at 15 % of the final score, the Safety domain at 35 %, and the Person and Community Engagement domain at 50 %. The measures by domain are listed with their data sources in the table below (Figure 15).

Figure 15. Proposed RY 2021 QBR Domains, Measures and Data Sources

	Clinical Care	Person and Community Engagement	Safety
Proposed QBR RY 2021	15% 2 measures ▸ Inpatient Mortality (HSCRC case mix data) ▸ THA TKA (CMS Hospital Compare, Medicare claims data)	50% 9 measures ▸ 8 HCAHPS domains (CMS Hospital Compare patient survey) ▸ 1 ED wait time (CMS Hospital Compare chart abstracted)	35% 6 measures ▸ 6 CDC NHSN HAI measures (CMS Hospital Compare chart abstracted)

The HSCRC sets aside a percentage of hospital inpatient revenue to be held "at risk" based on each hospital's QBR program performance. Hospital performance scores are translated into

rewards and penalties in a process that is referred to as scaling.[15] Rewards (referred to as positive scaled amounts) or penalties (referred to as negative scaled amounts) are then applied to each hospital's update factor for the rate year. The rewards or penalties are applied on a one-time basis and are not considered permanent revenue. The Commission previously approved scaling a maximum reward of 1% and a penalty of 2% of total approved base inpatient revenue across all hospitals for RY 2019.

HSCRC staff has worked with stakeholders over the last several years to align the QBR measures, thresholds, benchmark values, time lag periods, and amount of revenue at risk with those used by the CMS VBP program where feasible,[16] allowing the HSCRC to use data submitted directly to CMS.[17] As mentioned above, Maryland implemented an efficiency measure in relation to population based revenue budgets based on potentially avoidable utilization outside of the QBR program. The potentially avoidable utilization (PAU) savings adjustment to hospital rates is based on costs related to potentially avoidable admissions, as measured by the Agency for Healthcare Research and Quality Prevention Quality Indicators (PQIs) and avoidable readmissions. HSCRC staff will continue to work with key stakeholders to complete development of an efficiency measure that incorporates population-based cost outcomes.

QBR Proposed Measures Update: THA/TKA

In addition to the measure details provided above, the detail of the newly proposed THA/TKA measure already in use by the CMS VBP program is outlined below.

- The measure applies to patients **aged 65 or older** with **elective** primary **THA/TKA** procedure enrolled in Medicare fee-for-service.
- The **risk-standardized complication rate** (RSCR) is calculated as the ratio of the number of "predicted" to the number of "expected" admissions with a complication, multiplied by the national unadjusted complication rate. The numerator of the ratio is the number of admissions with a complication predicted on the basis of the hospital's performance with its observed case-mix.
- During the index hospital admission or within **seven days** from the date of index admission, the following complications acute myocardial infarction (AMI), pneumonia, and sepsis/septicemia/shock are measured;
- During the index hospital admission or within **30 days** of admission, death, surgical site bleeding, and pulmonary embolism are measured.

[15] Scaling refers to the differential allocation of a pre-determined portion of base-regulated hospital inpatient revenue based on assessment of the quality of hospital performance.
[16] HSCRC has used data for some of the QBR measures (e.g., CMS core measures, CDC NHSN CLABSI, CAUTI) submitted to the Maryland Health Care Commission (MHCC) and applied state-based benchmarks and thresholds for these measures to calculate hospitals' QBR scores up to the period used for RY 2017.
[17] VBP measure specifications may be found at: www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Measure-Methodology.html

- During the index hospital admission or within **90 days** of admission, mechanical complications and periprosthetic joint infection/wound infection are measured.
- Complications are counted only if they occur during the index hospital admission or during a readmission.

QBR Score Calculation

QBR Scores are evaluated by comparing a hospital's performance rate to its base period rate, as well as the threshold (which is the median, or 50th percentile, of all hospitals' performance during the baseline period), and the benchmark, (which is the mean of the top decile, or approximately the 95th percentile, during the baseline period).[18]

Attainment Points: During the performance period, attainment points are awarded by comparing an individual hospital's rates with the threshold and the benchmark. With the exception of the MD Mortality measure applied to all payers, the benchmarks and thresholds are the same as those used by CMS for the VBP program measures.[19] For each measure, a hospital that has a rate at or above benchmark receives 10 attainment points. A hospital that has a rate below the attainment threshold receives 0 attainment points. A hospital that has a rate at or above the attainment threshold and below the benchmark receives 1-9 attainment points

Improvement Points: The improvement points are awarded by comparing a hospital's rates during the performance period to the hospital's rates from the baseline period. A hospital that has a rate at or above the attainment benchmark receives 9 improvement points. A hospital that has a rate at or below baseline period rate receives 0 improvement points. A hospital that has a rate between the baseline period rate and the attainment benchmark receives 0-9 improvement points.

Consistency Points: The consistency points relate only to the experience of care domain. The purpose of these points is to reward hospitals that have scores above the national 50th percentile in all of the eight HCAHPS dimensions. If they do, they receive the full 20 points. If they do not, the dimension for which the hospital received the lowest score is compared to the range between the national 0 percentile (floor) and the 50th percentile (threshold) and is awarded points proportionately.

Domain Denominator Adjustments: In particular instances, QBR measures will be excluded from the QBR program for individual hospitals. In the Person and Community Engagement domain, ED wait time measures (if included in the RY 2020 program) will be excluded for protected hospitals. As described in the body of the report, a hospital may exclude one or both of the ED wait time measures if it has earned at least one improvement point and if its improvement

[18] The ED wait time measures do not have a benchmark; the methodology calculates hospital improvement relative to the national threshold, which is the national median for each respective ED volume category.
[19] For the ED wait time measures, attainment points are not calculated; instead full 10 points are awarded to hospitals at or below (more efficient) than the national medians for their respective volume categories in the performance period.

score would reduce its overall QBR score. If a measure is excluded, the Person and Community Engagement domain will reduce from 120 total points to 110 points.

Similarly, hospitals are exempt from measurement for any of the NHSN Safety measures for which there is less than 1 predicted case in the performance period. If a hospital is exempt from an NHSN measure, its Safety domain score denominator reduces from 60 to 50 points. If it is exempt from two measures, the Safety domain score denominator would be 40 total possible points. Hospitals must have at least 3 of 6 Safety measures in order to be included in the Safety domain.

Domain Scores: Composite scores are then calculated for each domain by adding up all of the measure scores in a given domain divided by the total possible points x 100. The better of attainment and improvement for experience of care scores is also added together to arrive at the experience of care base points. Base points and the consistency score are added together to determine the experience of care domain score.

Total Performance Score*:* The total Performance Score is computed by multiplying the domain scores by their specified weights, then adding those totals and dividing them by the highest total possible score. The Total Performance Score is then translated into a reward/ penalty that is applied to hospital revenue.

RY 2021 Proposed Timeline (Base and Performance Periods; Financial Impact)

Rate Year (Maryland Fiscal Year)	Q3-16	Q4-16	Q1-17	Q2-17	Q3-17	Q4-17	Q1-18	Q2-18	Q3-18	Q4-18	Q1-19	Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21
Calendar Year	Q1-16	Q2-16	Q3-16	Q4-16	Q1-17	Q2-17	Q3-17	Q4-17	Q1-18	Q2-18	Q3-18	Q4-18	Q1-19	Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21
Rate Year 2021																						
QBR					Hospital Compare Base Period (HCAHPS measures, ED-2b; All NHSN Measures)														Rate Year Impacted by QBR Results			
												Hospital Compare Performance Period (HCAHPS measures, ED-2b, All NHSN measures)										
							QBR Maryland Mortality Base Period															
													QBR Maryland Mortality Performance Period								
		POTENTIAL NEW MEASURE: Hospital Compare THA/TKA Performance Period**																				

**Hospital Compare THA /TKA Base Period April 1, 2011-March 31, 2014

APPENDIX II. RY 2019 PATIENT EXPERIENCE MEASURE RESULTS BY HOSPITAL

HCAHPS Measures		Care Transitions		Clean/Quiet		Understood Meds		Doctor Communication		Nurse Communication		Discharge Info		Overall Rating		Staff Responsive-ness	
Hospital ID	Hospital Name	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base
210001	Meritus	46%	1%	63%	1%	59%	-1%	75%	-1%	77%	2%	88%	-1%	67%	3%	59%	0%
210002	UMMC	54%	-1%	55%	-4%	62%	-4%	79%	-1%	79%	1%	88%	1%	70%	1%	58%	-3%
210003	PG Hospital	39%	2%	53%	-2%	49%	0%	74%	1%	63%	1%	78%	0%	47%	3%	43%	2%
210004	Holy Cross	44%	-1%	65%	10%	55%	2%	74%	-1%	71%	-1%	80%	0%	64%	5%	55%	-1%
210005	Frederick	50%	-2%	70%	2%	62%	-2%	78%	-1%	80%	1%	89%	2%	70%	3%	59%	-2%
210006	UM-Harford	45%	-9%	57%	-3%	58%	-14%	75%	-6%	77%	-5%	81%	-3%	65%	0%	61%	3%
210008	Mercy	55%	-1%	71%	-1%	70%	5%	82%	-2%	81%	-1%	89%	0%	79%	1%	68%	6%
210009	Johns Hopkins	59%	0%	68%	1%	64%	0%	80%	0%	81%	0%	88%	-1%	81%	-1%	60%	-2%
210010	UM-Dorchester	48%	-2%	66%	4%	63%	2%	80%	-2%	81%	1%	86%	0%	66%	2%	68%	1%
210011	St. Agnes	48%	1%	60%	2%	61%	3%	78%	0%	75%	1%	86%	2%	66%	4%	59%	5%
210012	Sinai	48%	-2%	65%	-3%	63%	1%	78%	0%	79%	1%	88%	3%	69%	-1%	61%	1%
210013	Bon Secours	44%	11%	64%	3%	59%	-4%	80%	7%	73%	10%	87%	-1%	54%	4%	59%	15%
210015	MedStar Fr Square	46%	4%	56%	0%	61%	-3%	78%	0%	75%	-5%	87%	0%	68%	0%	56%	-3%
210016	Washington Adventist	43%	-2%	61%	-1%	58%	-1%	76%	-1%	73%	-1%	85%	-1%	67%	-1%	58%	1%
210017	Garrett	49%	-3%	64%	2%	67%	-1%	82%	-1%	79%	0%	91%	4%	69%	2%	69%	3%

HCAHPS Measures		Care Transitions		Clean/Quiet		Understood Meds		Doctor Communication		Nurse Communication		Discharge Info		Overall Rating		Staff Responsive-ness	
Hospital ID	Hospital Name	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base
210018	MedStar Montgomery	43%	2%	63%	4%	54%	-5%	75%	-3%	72%	1%	87%	-1%	62%	1%	54%	-3%
210019	Peninsula	50%	-2%	62%	-3%	62%	1%	76%	-4%	79%	1%	89%	2%	69%	1%	61%	-4%
210022	Suburban	51%	0%	67%	3%	58%	-3%	80%	-2%	77%	-3%	84%	0%	70%	-2%	64%	-3%
210023	Anne Arundel	54%	-1%	67%	5%	62%	1%	81%	2%	81%	4%	85%	-2%	78%	5%	70%	6%
210024	MedStar Union Mem	50%	-4%	69%	3%	63%	2%	83%	1%	79%	0%	88%	-2%	74%	-2%	63%	1%
210027	Western Maryland	52%	1%	67%	3%	68%	4%	79%	1%	80%	1%	92%	0%	70%	3%	63%	2%
210028	MedStar St. Mary's	51%	-3%	66%	-3%	59%	-8%	79%	-3%	79%	-4%	90%	-1%	67%	-5%	62%	-5%
210029	JH Bayview	54%	1%	59%	3%	62%	3%	78%	1%	76%	1%	87%	2%	68%	0%	62%	4%
210030	UM-Chestertown	47%	5%	61%	5%	57%	3%	80%	6%	79%	10%	86%	4%	62%	10%	69%	9%
210032	Union of Cecil	47%	-3%	62%	4%	62%	0%	75%	-1%	76%	-2%	86%	-4%	65%	-1%	60%	-1%
210033	Carroll	48%	-1%	66%	3%	60%	-3%	75%	-1%	79%	-1%	87%	1%	67%	-5%	65%	1%
210034	MedStar Harbor	46%	1%	65%	3%	62%	2%	80%	-1%	76%	-1%	85%	-2%	67%	1%	62%	1%
210035	UM-Charles Regional	50%	2%	61%	-5%	63%	2%	73%	-2%	78%	3%	86%	-2%	65%	3%	65%	9%

HCAHPS Measures		Care Transitions		Clean/Quiet		Understood Meds		Doctor Communication		Nurse Communication		Discharge Info		Overall Rating		Staff Responsive-ness	
Hospital ID	Hospital Name	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base
210037	UM-Easton	48%	-2%	66%	4%	63%	2%	80%	-2%	81%	1%	86%	0%	66%	2%	68%	1%
210038	UMMC Midtown	47%	6%	65%	1%	62%	7%	77%	1%	75%	6%	86%	9%	61%	4%	64%	12%
210039	Calvert	48%	-4%	65%	4%	62%	2%	75%	-3%	79%	2%	88%	1%	65%	0%	62%	1%
210040	Northwest	49%	1%	64%	-3%	61%	-2%	77%	1%	77%	0%	88%	4%	68%	0%	67%	1%
210043	UM-BWMC	47%	-1%	61%	0%	58%	-3%	76%	1%	75%	-2%	85%	1%	65%	-5%	56%	-4%
210044	GBMC	52%	-5%	58%	-5%	58%	-10%	81%	-5%	77%	-4%	90%	5%	72%	-6%	64%	-5%
210048	Howard County	50%	4%	64%	2%	58%	-3%	78%	0%	78%	1%	86%	1%	71%	3%	60%	-4%
210049	UM-Upper Chesapeake	51%	2%	64%	3%	64%	1%	78%	3%	79%	3%	86%	2%	70%	3%	64%	8%
210051	Doctors	44%	0%	60%	-3%	60%	8%	75%	0%	73%	1%	86%	0%	66%	3%	56%	7%
210055	Laurel Regional	39%	-1%	54%	-5%	50%	-1%	71%	-4%	62%	-6%	80%	1%	50%	-5%	53%	1%
210056	MedStar Good Sam	47%	-1%	62%	1%	64%	5%	75%	-7%	77%	-1%	90%	2%	67%	-1%	61%	6%
210057	Shady Grove	49%	3%	61%	4%	59%	6%	79%	0%	77%	3%	86%	-1%	70%	6%	59%	7%
210060	Ft. Washington	38%	-8%	59%	-4%	54%	-4%	77%	-2%	72%	-1%	86%	2%	60%	2%	63%	5%
210061	Atlantic	53%	2%	59%	2%	65%	5%	79%	-2%	78%	-1%	90%	1%	67%	-3%	66%	0%

HCAHPS Measures		Care Transitions		Clean/Quiet		Understood Meds		Doctor Communication		Nurse Communication		Discharge Info		Overall Rating		Staff Responsive-ness	
Hospital ID	Hospital Name	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base	Perf	Change from base
	General																
210062	MedStar Southern MD	42%	5%	57%	1%	57%	4%	75%	-2%	70%	0%	82%	0%	54%	4%	53%	0%
210063	UM-St. Joe	55%	0%	67%	1%	61%	-3%	82%	2%	82%	3%	88%	0%	78%	3%	68%	2%
210065	HC-Germantown	47%	2%	66%	2%	56%	6%	77%	4%	68%	-2%	82%	0%	68%	1%	50%	-2%

APPENDIX III. RY 2021 QBR PERFORMANCE STANDARDS

Person and Community Engagement Domain*

Dimension	Benchmark	Achievement Threshold	Floor
Communication with Nurses	87.36%	79.06%	42.06
Communication with Doctors	88.10%	79.91%	41.99
Responsiveness of Hospital Staff	81.00%	65.77%	33.89%
Communication about Medicines	74.75%	63.83%	33.19%
Cleanliness and Quietness of Hospital Environment	79.58%	65.61%	30.60%
Discharge Information	92.17%	87.38%	66.94%
3-Item Care Transition	63.32%	51.87%	6.53%
Overall Rating of Hospital	85.67%	71.80%	34.70%

*The Person and Community Engagement performance standards displayed in this table were calculated using four quarters of calendar year 2017 data, and published in the CMS Inpatient Prospective Payment System FFY 19 Final Rule.

Safety Domain*

Measure Short ID	Measure Description	Benchmark	Achievement Threshold
CAUTI	Catheter-Associated Urinary Tract Infection	0	0.774
CDI	Clostridium *difficile* Infection	0.067	0.748
CLABSI	Central Line-Associated Blood Stream Infection	0	0.687
MRSA	Methicillin-Resistant Staphylococcus *aureus*	0	0.763
SSI	SSI - Abdominal Hysterectomy	0	0.726
	SSI - Colon Surgery	0	0.754

*The Safety Domain performance standards were published in the CMS Inpatient Prospective Payment System FFY 19 Final Rule.

Clinical Care Domain			
Measure Short ID	**Measure Description**	**Benchmark**	**Achievement Threshold**
Mortality	All Condition Inpatient Mortality	TBD*	TBD*
THA/TKA RSCR**	Total Hip/Knee Arthroplasty Risk Standardized Complication Rate	0.022418	0.031157

*Mortality standards will be calculated and disseminated with implementation of v. 36 of the APR DRG grouper.
**THA/TKA standards were published in the CMS Inpatient Prospective Payment System FFY 19 Final Rule.

APPENDIX IV: FUTURE OF QBR IN TOTAL COST OF CARE MODEL

To date, Maryland hospitals have met all of the Agreement goals laid out in the current contract with CMS. For the TCOC Model, contract terms do not define specific quality performance targets, but dictate that performance targets must be aggressive and progressive, must align with other HSCRC programs, must be comparable to federal programs, and must consider rankings relative to the nation. Maryland must submit annual reports to CMS demonstrating that our quality programs' design elements, operational impacts, and results meet or exceed those of national Medicare program. The HSCRC, in consultation with staff, industry and other key stakeholders, continues to lay the framework and has begun to the process to determine specific quality performance targets in the TCOC Model.

Staff has started developing new policy targets and to align measures for success under the TCOC Model. This will entail considering options for bundling outcomes across quality programs, evaluating opportunities for performance standards outside the hospital walls, ensuring that financial incentives under the population-based revenue system are compatible, and developing reporting measures that are more holistic and patient-centered. This longer-term work has begun with the convening a clinical subgroup to evaluate candidate measures of complications that Maryland should include in its pay for performance regimen. In addition, work has begun to evaluate external data sources to determine if the Commission can utilize them to incentivize improvement inside[20] and outside the hospital; revisit financial methodologies and cultivate new ones, such as Inter-Hospital Cost Comparison, to ensure resources are being disseminated in accordance with TCOC Model goals; and consider options for establishing an overarching service line approach to the hospital quality programs so as to break down silos and promulgate a more holistic and patient-centered environment. Staff acknowledges this will require a lot of work in concert with industry and a broad array of other stakeholders—consumers, payers, cross-continuum providers, quality measurement experts, and government agencies (local, state and federal)— as the success of the TCOC Model depends on reducing cost on a per capita basis without compromising quality of care.

[20] For example, staff notes that, although ED-1b is retired from CMS Inpatient Hospital Reporting and that PC-01 (early elective delivery) is retired from VBP after CY 2018, these measures continue to be optional for reporting to the Joint Commission. Therefore, staff could explore Joint Commission data for potential use in our quality programs in future years.

APPENDIX V. MODELING OF SCORES BY DOMAIN: RY 2019 QBR DATA WITH RY 2021 MEASURES

This appendix includes modeling of the removal of PC-01 and ED-1b (Model 1) versus these changes plus the addition of THA-TKA measure (Model 2).

		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Difference
Hospital ID	**Hospital Name**	**HCAHPS Final Score**	**HCAHPS Final Score**	**Mortality Final Score**	**Mortality Final Score**	**Safety Final Score**	**Safety Final Score**	**Total Score**	**Total Score**	**Total Score**
210001	Meritus	17%	17%	10%	33%	18%	18%	16.30%	19.80%	3.50%
210002	UMMC	20%	20%	0%	33%	8%	8%	12.80%	17.80%	5.00%
210003	UM-PGHC	5%	5%	10%	10%	14%	14%	9.13%	9.13%	0.00%
210004	Holy Cross	12%	12%	60%	40%	26%	26%	24.10%	21.10%	-3.00%
210005	Frederick	24%	24%	100%	70%	6%	6%	29.10%	24.60%	-4.50%
210006	UM-Harford	27%	27%	20%	47%	40%	40%	30.64%	34.64%	4.00%
210008	Mercy	55%	55%	50%	67%	28%	28%	44.57%	47.07%	2.50%
210009	Johns Hopkins	38%	38%	20%	20%	24%	24%	30.40%	30.40%	0.00%
210010	UM-Dorchester	33%	33%	60%	63%	28%	28%	35.30%	35.80%	0.50%
210011	St. Agnes	17%	17%	20%	40%	0%	0%	11.50%	14.50%	3.00%
210012	Sinai	22%	22%	40%	60%	28%	28%	26.80%	29.80%	3.00%
210013	Bon Secours	35%	35%	60%	60%	40%	40%	40.50%	40.50%	0.00%
210015	MedStar Fr Square	23%	23%	80%	87%	32%	32%	34.56%	35.56%	1.00%
210016	Washington Adventist	15%	15%	50%	60%	28%	28%	24.80%	26.30%	1.50%
210017	Garrett	37%	37%	10%	27%			30.79%	34.79%	4.00%
210018	MedStar Montgomery	12%	12%	10%	33%	14%	14%	12.40%	15.90%	3.50%

		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Difference
Hospital ID	**Hospital Name**	**HCAHPS Final Score**	**HCAHPS Final Score**	**Mortality Final Score**	**Mortality Final Score**	**Safety Final Score**	**Safety Final Score**	**Total Score**	**Total Score**	**Total Score**
210019	Peninsula	23%	23%	100%	100%	36%	36%	39.10%	39.10%	0.00%
210022	Suburban	17%	17%	30%	53%	18%	18%	19.30%	22.80%	3.50%
210023	Anne Arundel	34%	34%	40%	60%	10%	10%	26.32%	29.32%	3.00%
210024	MedStar Union Mem	28%	28%	0%	33%	28%	28%	23.80%	28.80%	5.00%
210027	Western Maryland	42%	42%	20%	47%	36%	36%	36.51%	40.51%	4.00%
210028	MedStar St. Mary's	25%	25%	80%	87%	32%	32%	35.93%	36.93%	1.00%
210029	JH Bayview	17%	17%	40%	60%	30%	30%	25.00%	28.00%	3.00%
210030	UM-Chestertown	30%	30%	100%	100%			46.10%	46.10%	0.00%
210032	Union of Cecil	17%	17%	10%	33%	50%	50%	27.50%	31.00%	3.50%
210033	Carroll	22%	22%	90%	93%	32%	32%	35.70%	36.20%	0.50%
210034	MedStar Harbor	20%	20%	90%	70%	30%	30%	34.00%	31.00%	-3.00%
210035	UM-Charles Regional	35%	35%	70%	77%	25%	25%	36.98%	37.98%	1.00%
210037	UM-Easton	33%	33%	50%	57%	28%	28%	33.80%	34.80%	1.00%
210038	UMMC Midtown	24%	24%	100%	90%	10%	10%	30.50%	29.00%	-1.50%
210039	Calvert	26%	26%	100%	93%	67%	67%	51.52%	50.52%	-1.00%
210040	Northwest	28%	28%	100%	93%	48%	48%	45.89%	44.89%	-1.00%
210043	UM-BWMC	13%	13%	90%	77%	24%	24%	28.40%	26.40%	-2.00%
210044	GBMC	24%	24%	90%	77%	58%	58%	45.80%	43.80%	-2.00%

		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Difference
Hospital ID	**Hospital Name**	**HCAHPS Final Score**	**HCAHPS Final Score**	**Mortality Final Score**	**Mortality Final Score**	**Safety Final Score**	**Safety Final Score**	**Total Score**	**Total Score**	**Total Score**
210048	Howard County	17%	17%	40%	30%	36%	36%	27.24%	25.74%	-1.50%
210049	UM-Upper Chesapeake	35%	35%	60%	73%	28%	28%	36.53%	38.53%	2.00%
210051	Doctors	17%	17%	30%	47%	80%	80%	41.00%	43.50%	2.50%
210055	UM-Laurel	10%	10%	20%	47%	13%	13%	12.67%	16.67%	4.00%
210056	MedStar Good Sam	34%	34%	60%	60%	16%	16%	31.60%	31.60%	0.00%
210057	Shady Grove	31%	31%	0%	0%	34%	34%	27.35%	27.35%	0.00%
210060	Ft. Washington	24%	24%	0%	27%			18.20%	24.60%	6.40%
210061	Atlantic General	34%	34%	100%	83%	0%	0%	31.82%	29.32%	-2.50%
210062	MedStar Southern MD	13%	13%	0%	10%	34%	34%	18.40%	19.90%	1.50%
210063	UM-St. Joe	44%	44%	70%	80%	28%	28%	42.12%	43.62%	1.50%
210065	HC-Germantown	15%	15%	80%	80%	50%	50%	36.77%	36.77%	0.00%

APPENDIX VI. MODELING OF QBR PROGRAM REVENUE ADJUSTMENTS

			Model 1: Removed PC-01 and ED-1b			Model 2: Model 1 + THA/TKA Measure		
HOSPID	**HOSPITAL NAME**	**RY18 Permanent Inpatient Revenue**	**RY 2021 Prelim QBR Points**	**% Revenue Impact**	**$ Revenue Impact**	**RY 2021 Prelim QBR Points**	**% Revenue Impact**	**$ Revenue Impact**
210001	MERITUS	$190,799,459	16.30%	-1.28%	-$2,442,233	19.80%	-1.12%	-$2,136,954
210002	UNIVERSITY OF MARYLAND	$919,253,797	12.80%	-1.43%	-$13,145,329	17.80%	-1.21%	-$11,122,971
210003	PRINCE GEORGE	$215,464,625	9.13%	-1.59%	-$3,425,888	9.13%	-1.59%	-$3,425,888
210004	HOLY CROSS	$340,412,069	24.10%	-0.93%	-$3,165,832	21.10%	-1.06%	-$3,608,368
210005	FREDERICK MEMORIAL	$220,972,343	29.10%	-0.71%	-$1,568,904	24.60%	-0.91%	-$2,010,848
210006	HARFORD	$48,557,781	30.64%	-0.64%	-$310,770	34.64%	-0.46%	-$223,366
210008	MERCY	$223,932,822	44.57%	-0.02%	-$44,787	47.07%	0.12%	$268,719
210009	JOHNS HOPKINS	$1,378,259,901	30.40%	-0.65%	-$8,958,689	30.40%	-0.65%	-$8,958,689
210010	DORCHESTER	$26,021,222	35.30%	-0.43%	-$111,891	35.80%	-0.41%	-$106,687
210011	ST. AGNES	$237,889,236	11.50%	-1.49%	-$3,544,550	14.50%	-1.36%	-$3,235,294
210012	SINAI	$398,036,508	26.80%	-0.81%	-$3,224,096	29.80%	-0.68%	-$2,706,648
210013	BON SECOURS	$65,798,042	40.50%	-0.20%	-$131,596	40.50%	-0.20%	-$131,596
210015	FRANKLIN SQUARE	$300,623,972	34.56%	-0.46%	-$1,382,870	35.56%	-0.42%	-$1,262,621
210016	WASHINGTON ADVENTIST	$158,337,604	24.80%	-0.90%	-$1,425,038	26.30%	-0.83%	-$1,314,202
210017	GARRETT COUNTY	$21,075,334	30.79%	-0.63%	-$132,775	34.79%	-0.45%	-$94,839
210018	MONTGOMERY GENERAL	$77,808,657	12.40%	-1.45%	-$1,128,226	15.90%	-1.29%	-$1,003,732
210019	PENINSULA REGIONAL	$241,466,813	39.10%	-0.26%	-$627,814	39.10%	-0.26%	-$627,814
210022	SUBURBAN	$197,431,392	19.30%	-1.14%	-$2,250,718	22.80%	-0.99%	-$1,954,571
210023	ANNE ARUNDEL	$299,264,995	26.32%	-0.83%	-$2,483,899	29.32%	-0.70%	-$2,094,855

			Model 1: Removed PC-01 and ED-1b			Model 2: Model 1 + THA/TKA Measure		
HOSPID	**HOSPITAL NAME**	**RY18 Permanent Inpatient Revenue**	**RY 2021 Prelim QBR Points**	**% Revenue Impact**	**$ Revenue Impact**	**RY 2021 Prelim QBR Points**	**% Revenue Impact**	**$ Revenue Impact**
210024	UNION MEMORIAL	$235,346,415	23.80%	-0.94%	-$2,212,256	28.80%	-0.72%	-$1,694,494
210027	WESTERN MARYLAND	$171,000,183	36.51%	-0.38%	-$649,801	40.51%	-0.20%	-$342,000
210028	ST. MARY	$76,303,058	35.93%	-0.40%	-$305,212	36.93%	-0.36%	-$274,691
210029	HOPKINS BAYVIEW MED CTR	$357,620,585	25.00%	-0.89%	-$3,182,823	28.00%	-0.76%	-$2,717,916
210030	CHESTERTOWN	$21,139,936	46.10%	0.06%	$12,684	46.10%	0.06%	$12,684
210032	UNION HOSPITAL OF CECIL	$66,514,320	27.50%	-0.78%	-$518,812	31.00%	-0.62%	-$412,389
210033	CARROLL COUNTY	$132,801,017	35.70%	-0.41%	-$544,484	36.20%	-0.39%	-$517,924
210034	HARBOR	$112,526,840	34.00%	-0.49%	-$551,382	31.00%	-0.62%	-$697,666
210035	CHARLES REGIONAL	$75,199,112	36.98%	-0.36%	-$270,717	37.98%	-0.31%	-$233,117
210037	EASTON	$105,222,295	33.80%	-0.50%	-$526,111	34.80%	-0.45%	-$473,500
210038	UMMC MIDTOWN	$117,217,727	30.50%	-0.64%	-$750,193	29.00%	-0.71%	-$832,246
210039	CALVERT	$63,677,722	51.52%	0.37%	$235,608	50.52%	0.32%	$203,769
210040	NORTHWEST	$133,828,758	45.89%	0.05%	$66,914	44.89%	0.00%	$0
210043	BALTIMORE WASHINGTON	$229,151,792	28.40%	-0.74%	-$1,695,723	26.40%	-0.83%	-$1,901,960
210044	G.B.M.C.	$225,145,722	45.80%	0.05%	$112,573	43.80%	-0.05%	-$112,573
210048	HOWARD COUNTY	$183,348,539	27.24%	-0.79%	-$1,448,453	25.74%	-0.86%	-$1,576,797
210049	UPPER CHESAPEAKE HEALTH	$130,150,364	36.53%	-0.38%	-$494,571	38.53%	-0.29%	-$377,436
210051	DOCTORS COMMUNITY	$144,686,192	41.00%	-0.18%	-$260,435	43.50%	-0.07%	-$101,280
210055	LAUREL REGIONAL	$58,931,276	12.67%	-1.44%	-$848,610	16.67%	-1.26%	-$742,534
210056	GOOD SAMARITAN	$140,674,848	31.60%	-0.60%	-$844,049	31.60%	-0.60%	-$844,049

			Model 1: Removed PC-01 and ED-1b			Model 2: Model 1 + THA/TKA Measure		
HOSPID	**HOSPITAL NAME**	**RY18 Permanent Inpatient Revenue**	**RY 2021 Prelim QBR Points**	**% Revenue Impact**	**$ Revenue Impact**	**RY 2021 Prelim QBR Points**	**% Revenue Impact**	**$ Revenue Impact**
210057	SHADY GROVE	$231,939,525	27.35%	-0.78%	-$1,809,128	27.35%	-0.78%	-$1,809,128
210060	FT. WASHINGTON	$19,548,527	18.20%	-1.19%	-$232,627	24.60%	-0.91%	-$177,892
210061	ATLANTIC GENERAL	$37,316,219	31.82%	-0.59%	-$220,166	29.32%	-0.70%	-$261,214
210062	SOUTHERN MARYLAND	$163,844,003	18.40%	-1.18%	-$1,933,359	19.90%	-1.12%	-$1,835,053
210063	UM ST. JOSEPH	$237,924,618	42.12%	-0.13%	-$309,302	43.62%	-0.06%	-$142,755
210065	HC-GERMANTOWN	$60,632,167	36.77%	-0.37%	-$224,339	36.77%	-0.37%	-$224,339
	Statewide Total	**$9,093,098,329**			**-$68,910,681**			**-$63,837,724**

APPENDIX VII. STAKEHOLDER COMMENT LETTERS