maryland
health services
cost review commission

NOTICE OF WRITTEN COMMENT PERIOD

Notice is hereby given that the public and interested parties are invited to submit written comments to the Commission on the staff draft recommendations and updates that will be presented at the November 12, 2020 Public Meeting:

1. Draft Recommendation on the Quality-Based Reimbursement (QBR) Policy for RY 2023
2. Draft Recommendation on the Full Rate Review Methodology
3. Statewide Integrated Health Improvement Strategy (SIHIS) Update on Workgroup Progress

WRITTEN COMMMENTS ON THE AFOREMENTIONED STAFF DRAFT RECOMMENDATIONS ARE DUE IN THE COMMISSION'S OFFICES ON OR BEFORE NOVEMBER 19, 2020, UNLESS OTHERWISE SPECIFIED IN THE RECOMMENDATION.

maryland
health services
cost review commission

578th Meeting of the Health Services Cost Review Commission
November 12, 2020

(The Commission will begin public session at 11:30 am for the purpose of, upon motion and approval, adjourning into closed session. The open session will resume at 1:00pm)

EXECUTIVE SESSION
11:30 am

1. Discussion on Planning for Model Progression – Authority General Provisions Article, §3-103 and §3-104

2. Update on Administration of Model - Authority General Provisions Article, §3-103 and §3-104

3. Update on Commission Response to COVID-19 Pandemic - Authority General Provisions Article, §3-103 and §3-104

PUBLIC MEETING
1:00 pm

1. Review of Minutes from the Public and Closed Meetings on October 14, 2020 and Closed Meeting on October 29, 2020

2. Docket Status – Cases Closed

   2530N – McNew Family Health Center 2531A – Johns Hopkins Health System
   2532A – Johns Hopkins Health System 2533A – Johns Hopkins Health System
   2534A – Johns Hopkins Health System 2535A – University of Maryland Medical Center

3. Docket Status – Cases Open

   2536A – University of Maryland Medical Center 2537A – University of Maryland Medical Center

4. Statewide Integrated Health Improvement Strategy (SIHIS) Presentation

5. Final Recommendation on Regional Partnership Catalyst Grant Program Awards

6. Final Recommendation on Maryland Hospital Acquired Conditions (MHAC) Program for RY 2023

7. Draft Recommendation on the Quality-Based Reimbursement (QBR) Program for RY 2023

8. Draft Recommendation on Full Rate Review Methodology

9. Policy Update and Discussion

a. Model Monitoring
b. Episode Quality Improvement Program (EQIP) Update
c. Planning Retreat Update

10. Legal Update

11. Hearing and Meeting Schedule

Cases Closed

The closed cases from last month are listed in the agenda

H.S.C.R.C's CURRENT LEGAL DOCKET STATUS (OPEN)

AS OF NOVEMBER 2, 2020

A: PENDING LEGAL ACTION : NONE
B: AWAITING FURTHER COMMISSION ACTION: NONE
C: CURRENT CASES:

Docket Number	Hospital Name	Date Docketed	Decision Required by:	Rate Order Must be Issued by:	Purpose	Analyst's Initials	File Status
2535A	University of Maryland Medical System	10/1/2020	N/A	N/A	ARM	DNP	OPEN
2535A	University of Maryland Medical System	10/1/2020	N/A	N/A	ARM	DNP	OPEN

PROCEEDINGS REQUIRING COMMISSION ACTION - NOT ON OPEN DOCKET

None

IN RE: THE APPLICATION FOR	*	**BEFORE THE MARYLAND HEALTH**	
ALTERNATIVE METHOD OF RATE	*	**SERVICES COST REVIEW**	
DETERMINATION	*	**COMMISSION**	
UNIVERSITY OF MARYLAND	*	**DOCKET:**	**2020**
MEDICAL CENTER	*	**FOLIO:**	**2346**
BALTIMORE, MARYLAND	*	**PROCEEDING:**	**2536A**

Staff Recommendation

November 12, 2020

I. INTRODUCTION

The University of Maryland Medical Center ("the Hospital") filed a renewal application with the HSCRC on October 5, 2020 for an alternative method of rate determination, pursuant to COMAR 10.37.10.06. The Hospital requests approval from the HSCRC to continue to participate in a global rate arrangement for solid organ and blood and bone marrow transplant services with Humana for a one-year period, effective December 1, 2020.

II. OVERVIEW OF APPLICATION

The contract will continue be held and administered by University Physicians, Inc. (UPI), which is a subsidiary of the University of Maryland Medical System. UPI will manage all financial transactions related to the global price contract including payments to the Hospital and bear all risk relating to regulated services associated with the contract.

III. FEE DEVELOPMENT

The hospital component of the global rates was developed by calculating mean historical charges for patients receiving the procedures for which global rates are to be paid. The remainder of the global rate is comprised of physician service costs. Additional per diem payments were calculated for cases that exceed a specific length of stay outlier threshold.

IV. IDENTIFICATION AND ASSESSMENT OF RISK

The Hospital will continue to submit bills to UPI for all contracted and covered services. UPI is responsible for billing the payer, collecting payments, disbursing payments to the Hospital at its full HSCRC approved rates, and reimbursing the physicians. The Hospital contends that the arrangement between UPI and the Hospital holds the Hospital harmless from any shortfalls in payment from the global price contract. UPI maintains that it has been active in similar types of fixed fee contracts for several years, and that UPI is adequately capitalized to the bear risk of potential losses.

V. STAFF EVALUATION

The staff reviewed the experience under this arrangement for the last year and found that

it was favorable. The staff believes that the Hospitals can continue to achieve a favorable experience under this arrangement.

VI. STAFF RECOMMENDATION

Staff recommends that the Commission approve the Hospital's application for an alternative method of rate determination for solid organ and blood and bone marrow transplant services for a one year period beginning December 1, 2020.

Consistent with its policy paper regarding applications for alternative methods of rate determination, the staff recommends that this approval be contingent upon the execution of the standard Memorandum of Understanding ("MOU") with the Hospital for the approved contract. This document would formalize the understanding between the Commission and the Hospital, and would include provisions for such things as payments of HSCRC-approved rates, treatment of losses that may be attributed to the contract, quarterly and annual reporting, confidentiality of data submitted, penalties for noncompliance, project termination and/or alteration, on-going monitoring, and other issues specific to the proposed contract. The MOU will also stipulate that operating losses under the contract cannot be used to justify future requests for rate increases.

IN RE: THE APPLICATION FOR	*	**BEFORE THE MARYLAND HEALTH**	
ALTERNATIVE METHOD OF RATE	*	**SERVICES COST REVIEW**	
DETERMINATION	*	**COMMISSION**	
UNIVERSITY OF MARYLAND	*	**DOCKET:**	**2020**
MEDICAL CENTER	*	**FOLIO:**	**2347**
BALTIMORE, MARYLAND	*	**PROCEEDING:**	**2537A**

Staff Recommendation

November 12, 2020

I. INTRODUCTION

University of Maryland Medical Center (the Hospital) filed an application with the HSCRC on October 28, 2020 for an alternative method of rate determination, pursuant to COMAR 10.37.10.06. The Hospital requests approval from the HSCRC to continue to participate in a global rate arrangement for heart, liver, kidney, lung, and pancreas transplants, SPK services, blood and bone marrow transplants and VAD services for a period of one year with Cigna Health Corporation beginning November 1, 2020.

II. OVERVIEW OF APPLICATION

The contract will continue be held and administered by University Physicians, Inc. ("UPI"), which is a subsidiary of the University of Maryland Medical System. UPI will manage all financial transactions related to the global price contract including payments to the Hospital and bear all risk relating to services associated with the contract.

III. FEE DEVELOPMENT

The hospital portion of the global rates was developed by calculating historical charges for patients receiving the procedures for which global rates are to be paid. The remainder of the global rate is comprised of physician service costs. Additional per diem payments were calculated for cases that exceed a specific length of stay outlier threshold.

IV. IDENTIFICATION AND ASSESSMENT OF RISK

The Hospital will continue submit bills to UPI for all contracted and covered services. UPI is responsible for billing the payer, collecting payments, disbursing payments to the Hospital at its full HSCRC approved rates, and reimbursing the physicians. The Hospital contends that the arrangement between UPI and the Hospital holds the Hospital harmless from any shortfalls in payment from the global price contract.

V. STAFF EVALUATION

The staff found that the Hospital's experience under this arrangement for the previous year was unfavorable. The Hospital has provided plans to institute actions and policies that will reduce costs and control utilization to bring this arrangement to profitability. Staff believes that

with the implementation of such actions and policies the Hospital can achieve a favorable performance.

VI. STAFF RECOMMENDATION

The staff recommends that the Commission approve the Hospital's application for an alternative method of rate determination for heart, liver, kidney, lung, and pancreas transplants, SPK services, blood and bone marrow transplants and VAD services, for a one year period commencing November 1, 2020. The Hospital will need to file a renewal application to be considered for continued participation.

Consistent with its policy paper regarding applications for alternative methods of rate determination, the staff recommends that this approval be contingent upon the execution of the standard Memorandum of Understanding ("MOU") with the Hospital for the approved contract. This document would formalize the understanding between the Commission and the Hospital, and would include provisions for such things as payments of HSCRC-approved rates, treatment of losses that may be attributed to the contract, quarterly and annual reporting, confidentiality of data submitted, penalties for noncompliance, project termination and/or alteration, on-going monitoring, and other issues specific to the proposed contract. The MOU will also stipulate that operating losses under the contract cannot be used to justify future requests for rate increases.

maryland
health services
cost review commission

Statewide Integrated Health Improvement Strategy (SIHIS)

Update on Workgroup Progress

November 2020

Written public comments will be accepted from November 5, 2020 – November 19, 2020.
Comments should be submitted to hscrc.rfp-implement@maryland.gov.

maryland
health services
cost review commission

Table of Contents

maryland
health services
cost review commission

Policy Overview

Policy Objective	Policy Solution	Effect on Hospitals	Effect on Payers & Consumers	Effect on Health Equity
The Total Cost of Care Model aims to improve quality and cost across both hospital and non-hospital settings, including population health improvement and chronic disease management.	The Statewide Integrated Health Improvement Strategy (SIHIS) is designed to engage State agencies and private-sector partners to collaborate and invest in improving health, addressing disparities, and reducing costs for Marylanders.	Hospitals, State agencies, community resources, and other healthcare stakeholders are expected to collaborate on new and expand existing interventions to improve hospital quality, care transformation across the healthcare system, and statewide population health goals.	SIHIS introduces enhanced hospital quality requirements, community-based interventions, and payment models intended to increase access to care, and value of healthcare care services delivered across the state.	SIHIS aligns healthcare stakeholders and encourages cooperative targeting of health areas that disproportionately affect minority communities and have significant disparities.

Overview

The following report is a workgroup update on the *Statewide Integrated Health Improvement Strategy* (SIHIS) that is part of the State's Total Cost of Care Model. Under terms included in the MOU with the Centers for Medicare and Medicaid Services' Center for Innovation (CMMI), the State is required to establish goals, measures, milestones, and targets and perform activities to progressively improve in three "domains" of Maryland's healthcare system: 1) Hospital Quality, 2) Care Transformation Across the System, and 3) Total Population Health. Maryland will develop a comprehensive proposal that includes a plan to achieve progress milestones and population health outcome targets across all three domains by the end of 2026. The proposal will be submitted to CMMI by December 31, 2020. This report summarizes feedback from workgroups led by the Maryland Department of Health (MDH), the Opioid Operational Command Center (OOCC), and the Health Services Cost Review Commission (HSCRC or Commission) on the goals, measures, milestones, and targets that Maryland should include in the proposal to CMMI. While this report is being presented to the members of the HSCRC and to the public, the feedback will ultimately be shared with MDH, OOCC, and HSCRC as the final submission is prepared. Finally, this proposal will be submitted by the Governor, MDH Secretary, and HSCRC Chairman for consideration and approval by CMMI.

Background

The State of Maryland is leading a transformative effort to improve care and lower healthcare spending growth through the Maryland Total Cost of Care (TCOC) Model. The TCOC Model builds on the successes of the All-Payer Model, a 5-year demonstration project with the Centers for Medicare and Medicaid Services' Center for Innovation (CMMI) that established global budgets for hospitals and ended December 31, 2018. In 2019, the State of Maryland launched the TCOC Model with the goal of "testing whether statewide healthcare delivery transformation, in conjunction with population-based hospital payments, improves population health and care outcomes for individuals, while controlling the growth of Medicare Total Cost of Care."[1] Thus the TCOC Model continued the global budget revenue approach for hospitals and also introduced additional responsibility and flexibility for the State to limit growth of Medicare total cost of care. Given this broader mandate, the State and CMMI recognized that success under the new agreement would require more focus beyond hospital walls.

New specific targets for hospital quality and population health were not included in the TCOC Model agreement in recognition of the broader work and engagement needed to develop goals, measures and targets consistent with this iteration of the Maryland Model. In 2019, the State collaborated with CMMI to establish the broad domains for goals that the State wanted to impact under the Total Cost of Care Model. The collaboration also included an agreed upon process and timing by which the State would submit proposed goals, measures, milestones, and targets to CMMI. As a result of the collaboration with CMMI, the State entered into a Memorandum of Understanding (MOU) that required Maryland to provide a proposal for the Statewide Integrated Health Improvement Strategy (SIHIS) to CMMI by December 31, 2020.

The SIHIS proposal requirements are set in the MOU and require the State to provide at least one goal for each of the three domains. Within each domain, the proposal must also provide a Model Year 3 milestone that will be measured based on CY 2021 data, a Model Year 5 interim target that will be measured based on CY 2023 data, and a Model Year 8 final target that will be measured based on CY 2026 data. The MOU also sets forth guiding principles that Maryland should use to develop SIHIS. These guiding principles include the following:

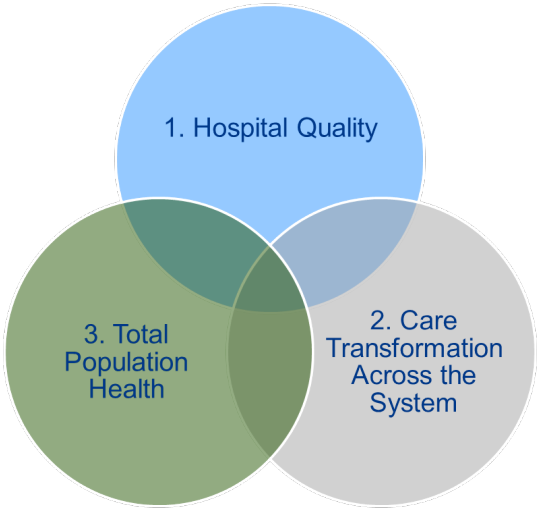
- Maryland's strategy should fully maximize the population health improvement opportunities made possible by the TCOC Model;
- Goals, measures, and targets should be specific to Maryland and established through a collaborative public process;
- Goals, measures and targets should reflect an all-payer perspective;

[1] Maryland Total Cost of Care Model Agreement. https://hscrc.maryland.gov/Documents/Modernization/TCOC-State-Agreement-CMMI-FINAL-Signed-07092018.pdf

- Goals, measures and targets should capture statewide improvements, including improved health equity;
- Goals for the three domains of the integrated strategy should be synergistic and mutually reinforcing;
- Measures should be focused on outcomes whenever possible; milestones, including process measures, may be used to signal progress toward the targets;
- Maryland's strategy must promote public and private partnerships with shared resources and infrastructure.

Using the principles established in the SIHIS MOU, Maryland will continue to expand efforts to transform health care delivery across the State, in conjunction with developing population-based hospital payments, and launching initiatives designed to improve population health and care outcomes for individuals. Collectively these initiatives are intended to improve the overall health of Marylanders while controlling the growth of healthcare costs both in the short and long term.

As part of SIHIS, Maryland's efforts will span three domains that are interrelated and, if addressed successfully, have potential to make significant improvement in not just Maryland's healthcare system but the health outcomes of Marylanders.



- *Hospital Quality* – The establishment of enhanced hospital quality and value-based performance targets that build on historical performance targets to drive continued improvement in care quality.
- *Care Transformation Across the System* – The implementation and measurement of system-wide care transformation activities and the degree to which value-based payment models are being used to improve care quality and reduce costs.

- *Total Population Health* – The identification of key health priorities and the implementation of a statewide approach that mobilizes and integrates public and private resources to improve health outcomes for Marylanders.

Statewide Collaboration

In the third domain, Total Population Health, the Maryland Department of Health (MDH), the Maryland Opioid Operational Command Center (OOCC), and the Maryland Health Services Cost Review Commission (HSCRC), have worked collaboratively with stakeholders to identify opportunities provided by the Total Cost of Care Model to improve population health across the State. MDH and OOCC are leading efforts to reduce impact in three potential key health priorities:

- Diabetes Prevention and Management
- Opioid Mortality
- Maternal & Child Health

MDH is leading efforts to establish the Total Population Health goals and strategies to address diabetes and maternal & child health. In parallel, OOCC is taking the lead in setting goals and strategy to reduce the impact of opioids. Given the separate and distinct nature of these priority areas, CMMI has confirmed that goals, measures, milestones, and targets are expected for *each* Total Population Health priority area.

The Importance of SIHIS

In 2024, CMMI could decide whether to make some or all of the TCOC Model permanent. CMMI insists that for permanency or expansion of the Model to be considered, the State must sustain or improve high quality care under the hospital finance model and achieve annual cost saving targets. Additionally, CMMI has underscored that the State must also set goals, measures, milestones, and targets and achieve progress on its SIHIS initiative as a demonstration of Maryland's ability to improve population health under the TCOC Model. Thus, Maryland's SIHIS performance will be an important consideration in CMMI's decision on the future of the Maryland Model.

SIHIS Workgroup Update

To establish the goals, measures, milestones, and targets for the SIHIS proposal, a broad stakeholder engagement process was developed to include workgroups led by MDH, OOCC, and HSCRC. The goal of these workgroups was to obtain stakeholder input as the State develops its SIHIS proposal. In particular, the groups were tasked with helping to identify goals, measures, milestones, and targets that would be achievable in the SIHIS performance period established by CMMI. Because of this, the workgroups were specifically designed to solicit input from diverse healthcare system stakeholders including hospitals, consumer advocates, health policy experts, payers, physicians, State agencies, and other community-

based healthcare resources. Agency staff from MDH, OOCC, and HSCRC guided detailed discussions with workgroups between July-October 2020 to evaluate options for the SIHIS proposal. Additionally, MDH, OOCC, and HSCRC provided clinical, epidemiological, and statistical expertise to assist the groups in discussions to evaluate the feasibility of widespread improvements across the domains during the SIHIS performance period. This report is intended to provide an update to the Commission and the public on the work of each of the groups.

Domain 1 – Hospital Quality

HSCRC's Performance Measurement Work Group was engaged to get input on the Hospital Quality domain portion of the SIHIS proposal. At the outset, the group recognized the need to make further progress in hospital quality, consistent with broader care coordination and population health aims under the Model. Given this, the group supported an AHRQ endorsed measure of avoidable admissions with targets that reflect what the group believed would be feasible for hospitals to achieve by 2026. Additionally, given the MOU principle to include elements in our proposal that reflect Maryland's commitment to health equity, the group opted to include an additional hospital quality measure focused on reducing the readmission disparity gap. This second measure will take additional time to develop and with CMMI's approval will be finalized in 2021.

Figure 1. ***Goal: Reduce avoidable admissions and readmissions***[2]

Measure	2018 Baseline	2021 Year 3 Milestone(s)	2023 Year 5 Interim Target	2026 Year 8 Final Target
AHRQ Risk-Adjusted PQIs	1335 admits per 100,000**	8 percent improvement	15 percent improvement	25 percent improvement
Readmission Disparity Gap	TBD	Establish and monitor a measurement methodology and payment incentive for reducing within hospital readmission disparities and set a 2023 and 2026 target	TBD	TBD

[2] Maryland will pursue expanding the definition of avoidable inpatient stays to the emergency department and may set targets for reductions in avoidable ED visits in the future.

**This all-payer baseline rate for MD residents was run using HSCRC case-mix data under PQI v2020. The baseline rate will be updated with new PQI versions to ensure measure accounts for new codes and changes in clinical logic overtime.

Domain 2 – Care Transformation Across the System

HSCRC's Performance Measurement Work Group and HSCRC's Total Cost of Care Work Group were engaged to develop the proposal for Domain #2, Care Transformation Across the System. The groups were asked to respond to the HSCRC staff recommendation for goals, measures, milestones, and targets. The intent was to include both a clinically focused measure of care coordination specifically for patients with chronic conditions, as well as a quantitative measure of the volume of total cost of care or beneficiaries enrolled in value-based payment models. The workgroups came to a consensus on the following areas that would demonstrate Maryland's work to foster care transformation across the healthcare system.

Figure 2. ***Goal: Improve care coordination for patients with chronic conditions***[3]

Measure	2018 Baseline	2021 Year 3 Milestone(s)	2023 Year 5 Interim Target	2026 Year 8 Final Target
Timely Follow-up After Acute Exacerbations of Chronic Conditions^ (NQF# 3455)	71.59%	72.43% 1.17 percent improvement	73.28% 2.35 percent improvement	75.00% 4.76 percent improvement or 0.50 percent better than the national rate

Figure 3. ***Goal: Increase the amount of Medicare TCOC or number of Medicare beneficiaries under Care Transformation Initiatives (CTIs), the Care Redesign Program (CRP), or successor payment models***[4]

Measure	2018 Baseline	2021 Year 3 Milestone(s)	2023 Year 5 Interim Target	2026 Year 8 Final Target
TCOC Under CTI	$0	25% of Medicare TCOC under a CTI or CRP or successor payment model	37% of Medicare under a CTI or CRP or successor payment model	50% of Medicare TCOC under a CTI or CRP or successor payment model
Beneficiaries Under CTI	0	15% of Medicare Beneficiaries covered under a CTI or CRP or successor payment model	22% of Medicare Beneficiaries covered under a CTI or CRP or successor payment model	30% of Medicare Beneficiaries covered under a CTI or CRP or successor payment model

[3] Medicare-only based on CCLF data. Maryland will pursue adding and setting goals for additional payers (e.g., Medicaid) and expanding the conditions evaluated (e.g., follow-up after mental health hospitalization).

[4] Maryland will pursue adding additional payers as data becomes available about care transformation activities.

Domain 3 – Total Population Health

Diabetes Prevention & Management

Diabetes was identified in 2019 as a statewide priority by Maryland State Secretary of Health. Since then, the MDH Center for Population Health Initiatives has led statewide efforts to develop Maryland's "Diabetes Action Plan" and galvanize stakeholders to address Maryland's disturbing trend of approximately 1.6 million Maryland adults who have pre-diabetes and 500,000 Maryland adults in Maryland who have diabetes. [5]

For the diabetes priority area of the SIHIS Total Population Health domain, the MDH Center for Population Health Initiatives formed a Diabetes Workgroup made up of diverse stakeholders with expertise in diabetes prevention and management. The group and its subject matter experts agreed to focus on an "upstream" approach to impact diabetes across the State. This approach would require Maryland to improve overall statewide BMI for adult Maryland residents in comparison to a cohort of states in a control group. Maryland's statewide mean BMI for 2018 will be used as the baseline value. Since elevated BMI is a critical clinical indicator of diabetes risk, improvement in statewide BMI mean could have significant positive implications on the State's diabetes burden. Further, the measurement approach supported by the workgroup to compare Maryland's performance to a cohort of control states would be consistent with Maryland's outcomes-based credit methodology that has already been approved by CMMI.

Figure 4. ***Goal: Reduce the mean BMI for adult Maryland residents***[6]

Measure	2018 Baseline	2021 Year 3 Milestone(s)	2023 Year 5 Interim Target	2026 Year 8 Final Target
Mean BMI in the population of adult Maryland residents	State mean BMI for 2018	Identify the cohort of states that will serve as the control group to measure progress. Enter into DUAs if necessary. Launch the Diabetes Prevention and Management Program track of the HSCRC Regional Partnership Catalyst Grant Program. Incorporate a quality measure for all MDPCP practices requiring BMI measurement for all patients, and for patients with an	Achieve a more favorable change from baseline mean BMI than a group of control states	Achieve a more favorable change from baseline mean BMI than a group of control states

[5] Maryland Department of Health, Diabetes Action Plan. https://phpa.health.maryland.gov/CCDPC/Pages/diabetes-action-plan.aspx

[6] Mean BMI will be determined using the results of the Behavioral Risk Factor Surveillance System (BRFSS).

		elevated BMI, requiring documentation of a follow-up plan (applying inclusion/exclusion criteria from MIPS measure 128). Expansion of CRISP Referral Tool to Regional Partnerships to increase patient referrals for Diabetes Prevention Programs.		

Opioid Overdose Mortality

The Lt. Governor convened the Maryland Heroin and Opioid Emergency Taskforce in 2015, which highlighted the opioid crisis as a critical health priority for the state. The crisis was reaffirmed in 2017 when a State of Emergency was declared, standing up the OOCC and establishing the Inter-Agency Heroin and Opioid Coordinating Council which is still in operation today. In 2018, eighty-nine percent of all intoxication deaths that occurred in Maryland were opioid-related with Maryland's age-adjusted opioid death rate at 37.2 per 100,000.[7] SIHIS has thus presented a unique opportunity to continue to reinforce the importance of addressing the opioid crisis in Maryland.

Through the leadership of the OOCC, an Opioids Workgroup was formed and included diverse substance use disorder and mental health experts. The workgroup considered several opioid related measures that could be included in the SIHIS proposal. The group leveraged the OOCC's longstanding work in tracking data on the opioid crisis and the interventions occurring around the State. Ultimately the group coalesced around a goal to improve overdose mortality. The group supported an approach to measure improvement in this area by comparing Maryland's overdose mortality rate during the SIHIS performance period to a cohort of states in a control group. As with the diabetes priority area, this measurement approach was selected to align with Maryland's outcomes-based credit methodology that has already been approved by CMMI.

Figure 5. ***Goal: Improve overdose mortality in Maryland***[8]

Measure	2018 Baseline	2021 Year 3 Milestone(s)	2023 Year 5 Interim Target	2026 Year 8 Final Target

[7] Maryland Behavioral Health Administration. Unintentional Drug- and Alcohol-Related Intoxication Deaths in Maryland, 2018. https://bha.health.maryland.gov/Documents/Annual_2018_Drug_Intox_Report.pdf

[8] Maryland will utilize Centers for Disease Control data that measures age-adjusted overdose rates based on ICD-10 codes.

Annual change in overdose mortality as compared to a cohort of states with historically similar overdose mortality rates and demographics	Age-adjusted death rate of 37.2/100,000	Implement SBIRT in 200 MDPCP practices by the end of 2021. Increase the number of screenings and brief interventions performed by MDPCP practices from the baseline of 2019 (first year of the program) to 2021. Identify the cohort of states that will serve as our control group to measure progress. Enter into DUAs if necessary. Launch Behavioral Health Crisis Programs track of the HSCRC Regional Partnership Catalyst Grant Program.	Achieve a more favorable trend in overdose mortality rate as compared to the weighted average of control states	Achieve a more favorable trend in overdose mortality rate as compared to the weighted average of control states

Maternal & Child Health

As part of the Total Population Health domain of SIHIS, Maryland had the option to identify a third health priority area. Under the leadership of MDH, maternal and child health is being considered as the third priority area to be included in SIHIS Domain 3. Consistent with the MOU guiding principle to select goals, measures, and targets that are all-payer in nature, this priority area was deliberately considered even though it is not Medicare focused. The selection of maternal and child health as a priority area reflects its importance in the State given the longstanding history of disparities and the large potential for improvement.

MDH's Maternal & Child Health Bureau formed a work group by first tapping into the existing Maternal & Child Health Task Force that was created under the 2019 legislative mandate in House Bill 520/Senate Bill 406. The Task Force was then expanded to include additional clinical, academic, payer, hospital, and community stakeholders from around the State. The group is considering two potential goals. The first potential goal would focus on maternal health by addressing severe maternal morbidity (SMM). In 2018, there were 62,423 delivery hospitalizations and 1,508 SMM events for women ages 12-44 with a delivery diagnosis. Many of these events are preventable and thus the addition of SMM to SIHIS could result in significant focus and ultimately improvement in this area that has a longstanding history of racial/ethnic disparities. The second potential area under consideration would focus on a childhood asthma-related emergency department (ED) goal. In 2018, there were 10,974 asthma-related ED visits for ages 2-17 in Maryland with asthma being the primary diagnosis. Childhood asthma has been a longstanding priority for

MDH and is another area where significant racial/ethnic health disparities exist in terms of ED visits. This too suggests a significant opportunity for Maryland to improve. The goal areas are being evaluated for inclusion in the SIHIS proposal to CMMI and will be finalized by the end of November 2020.

Figure 6. ***Goal: To decrease severe maternal morbidity rate stratified by race and ethnicity***

Measure	2018 Baseline	2021 Year 3 Milestone(s)	2023 Year 5 Interim Target	2026 Year 8 Final Target
Severe Maternal Morbidity Rate per 10,000 delivery hospitalizations stratified by race and ethnicity	White NH SMM rate: 184 per 10,000 delivery hospitalizations Black NH SMM rate: 328 per 10,000 delivery hospitalization Other : 235 per 10,000 deliveries hospitalization	Re-Launch of the Perinatal Quality Collaborative. Complete Maryland Maternal Strategic Plan. Launch Regional Partnership Catalyst Grant for MCH, if funding available.	White NH SMM rate: 164 per 10,000 delivery hospitalizations Black NH SMM rate: 287 per 10,000 delivery hospitalization Other : 210 per 10,000 deliveries hospitalization	White NH SMM rate: 145 per 10,000 delivery hospitalizations Black NH SMM rate: 245 per 10,000 delivery hospitalization Other : 185 per 10,000 deliveries hospitalization

Figure 7. ***Goal: To decrease asthma-related emergency department visit rates for ages 2-17***

Measure	2018 Baseline	2021 Year 3 Milestone	2023 Year 5 Interim Target	2026 Year 8 Final Target
Annual ED visit rate per 1,000 for ages 2-17	9.2 ED visit rate per 1,000 for ages 2-17	Obtain Population Projections. Development of Asthma Dashboard. Launch Regional Partnership Catalyst Grant for MCH, if funding available. Asthma-related ED visit is a Title V State Performance Measure and shift some of the Title V funds for Asthma interventions.	Aim for achieving a rate reduction from 9.2 in 2018 to 7.2 in 2023 for ages 2-17	Aim for achieving a rate reduction from the 9.2 in 2018 to 5.3 in 2026 for ages 2-17

maryland
health services
cost review commission

Next Steps

The Maryland Department of Health, the Opioid Operational Command Center, and the Maryland Health Services Cost Review Commission are soliciting public comments on the SIHIS goals, measures, milestones, and targets. Written public comments will be accepted from November 5th through November 19th. Organizations or individuals that provide written comment will also have the option to provide verbal testimony in the December HSCRC public meeting before the SIHIS proposal is submitted to CMMI. Questions and written comments should be submitted to the HSCRC via email at hscrc.rfp-implement@maryland.gov. The HSCRC will then share pertinent comments with MDH and OOCC for consideration as well.

maryland
health services
cost review commission

Regional Partnership Catalyst Grant Program

Final Funding Recommendation

November 2020

maryland
health services
cost review commission

Table of Contents

maryland
health services
cost review commission

Policy Overview

Policy Objective	Policy Solution	Effect on Hospitals	Effect on Payers/ Consumers	Effect on Health Equity
The Total Cost of Care Model aims to improve quality and cost across both hospital and non-hospital settings, including population health improvement and chronic disease management.	The Regional Partnership Catalyst Grant provides investments to support the goals of the Statewide Integrated Health Improvement Strategy and fosters collaboration between Maryland hospitals and community partners to achieve population health improvement.	Hospitals that are awarded grants under this grant program will receive a one-time adjustment in their GBR. The funding is temporary and is not intended to be included in the hospital's base on an ongoing basis.	The Regional Partnership Catalyst Grant Program funds were included in the calculations for the FY 2021 annual update factor and thus does not increase the overall total cost of care. Consumers will benefit from additional community programs focused on diabetes and behavioral health.	The Regional Partnership Catalyst Grant Program funds interventions that will build critical healthcare infrastructure to assist in improving access to services for conditions that disproportionately affect minority communities.

Overview

The Maryland Health Services Cost Review Commission ("HSCRC," or "Commission") staff have prepared the following funding recommendation for the Regional Partnership Catalyst Grant Program. Under this grant program, hospitals and their community partners will collaborate on interventions and infrastructure investments to support the *Statewide Integrated Health Improvement Strategy* (SIHIS) that is part of the State's Total Cost of Care (TCOC) Agreement with the Centers for Medicare and Medicaid Services (CMS). As part of the SIHIS, the State will establish population health goals and develop interventions to reduce the impact of diabetes and opioid use disorder in the State. The Regional Partnership Catalyst Grant Program is intended to fund activities that will support SIHIS population health goals including the implementation or expansion of diabetes and behavioral health crisis programs. The new grant program will become effective January 1, 2021.

To develop this recommendation, the HSCRC staff launched a competitive Request for Proposals (RFP) process. Further, the staff formed an evaluation committee with State agency resources and subject matter experts to review the eighteen proposals received for this grant program. Based on the evaluation committee's review process, staff recommends funding for nine of the proposals received. If approved, the grant would represent a total investment of $165.4 million on these population health priority areas over the five-year grant period. Of this amount, $86.3 million would be applied to diabetes prevention and management activities and $79.1 million would be applied to behavioral health crisis services. The remainder of funding will be applied to other State defined health priorities areas.

Final Staff Recommendation

The HSCRC staff recommends approving the top-ranking diabetes and behavioral health crisis services proposals received for the Regional Partnership Catalyst Grant Program. This would include the approval of nine proposals valued at $165.4 Million in five-year cumulative funding. The below proposals are recommended for approval.

Six Diabetes Proposals valued at $86.3 Million in five-year cumulative funding:

- Saint Agnes and Lifebridge ($5,962,333)
- Baltimore Metropolitan Diabetes Regional Partnership ($43,299,986)
- Nexus Montgomery ($11,876,430)
- Totally Linking Care ($7,379,620)
- Trivergent Health ($15,717,413)
- UM Charles Regional Medical Center ($2,124,862)

Three Behavioral Health Proposals valued at $79.1 Million in five-year cumulative funding:

- Greater Baltimore Integrated Crisis System ($44,862,000)
- Totally Linking Care ($22,889,722)
- Peninsula Regional ($11,316,332)

Stakeholder Feedback Summary

To ensure stakeholder feedback was considered in the award of Regional Partnership Catalyst Grants, HSCRC staff accepted public comments on the draft recommendation. Staff received four comment letters from stakeholders in response to the draft recommendation. The respondents were:

1. Maryland Hospital Association
2. Delegate Joseline Peña-Melnyk
3. Behavioral Health System of Baltimore
4. CareFirst BlueCross BlueShield

We thank the stakeholders for their comment letters about the proposed awards. Copies of the letters received by HSCRC are attached to this final recommendation. All comment letters expressed support for the grant program awards. Two of the letters were written in support of the Greater Baltimore Regional Integrated Crisis System (GBRICS). Staff reviewed all the letters and identified two questions raised by stakeholders that are addressed below.

1. Stakeholder Comment: Regardless of whether the State names a third population health priority in the SIHIS, HSCRC should award the full $225 million in Regional Partnership funding approved in November 2019.

Staff Response: The Catalyst grant program has earmarked funds for the three funding streams identified and approved by the Commission. This current round of awards will support diabetes prevention and management activities and behavioral health crisis services. A third population health priority area is being contemplated and if it is selected, the HSCRC will issue an RFP to solicit applications for the third area of grant funds. A final decision on the third population health priority will be made by the end of CY2020.

2. Stakeholder Comment: Though not mentioned in the draft funding recommendation, there is strong support for the addition of maternal and child health as a third population health area of focus for the program and for future funding of collaborations.

Staff Response: The Regional Partnership Catalyst Grant Program is designed to support population health priorities identified in the Statewide Integrated Health Improvement Strategy (SIHIS). Maternal and child health is being considered as a priority area for SIHIS. A final decision on the inclusion of maternal and child health as a SIHIS population health priority will be made by the end of CY 2020.

Background

The HSCRC created the Regional Partnership Transformation Grant Program in 2015 with the goal of achieving All-Payer Model reductions in potentially avoidable utilization (PAU), reductions in per capita costs, and a positive return on investment demonstrated through savings to Medicare. There were fourteen hospital-led partnerships created and funded through the grant program that include 41 of Maryland's acute care hospitals serving both rural and urban areas across the State. The interventions performed by Regional Partnerships under the Transformation Grant Program were diverse and included a variety of behavioral health integration, care transitions, home-based care, mobile health, and patient engagement/education strategies that were focused primarily on high-need and high-risk Medicare patients.

The Transformation Grant Program expired on June 30, 2020. Given this, the Commission authorized a new competitive grant program to be established effective January 1, 2021. The new *Regional Partnership Catalyst Grant Program* was designed to build upon the original vision of this grant program and enable hospitals to continue working with community resources to create infrastructure needed to sustainably support the population health goals of the Total Cost of Care Model SIHIS activities.

The Regional Partnership Catalyst Grant Program is a five-year competitive grant program. The grants will be used to fund hospital-led teams that work across statewide geographic regions to develop interventions to address the key health priorities identified as part of the SIHIS Population Health domain. As part of the grant program, hospitals will partner with neighboring hospitals and/or diverse community organizations including local health departments, provider organizations, community health workers, and behavioral health resources to implement interventions that are intended to aid in improving population health.

The HSCRC Grant Philosophy

The new Regional Partnership Catalyst Grant Program is based on the HSCRC grant philosophy that the funding is designed to a) foster collaboration between hospitals and community partners and b) enable the creation of infrastructure to disseminate evidence-based interventions. The following core principles will apply to the new Regional Partnership Catalyst Grant Program:

- *Eliminate duplication* – Given Maryland's shift from the All-Payer Model to the Total Cost of Care Model, care must be taken to ensure both interventions and grant funds are not duplicative with other new elements of the Model and other funding opportunities.
- *Ensure alignment with State priorities* – Funded interventions must support the goals of the Total Cost of Care Model and priority conditions identified under the Statewide Integrated Health Improvement Strategy.
- *Ensure broad collaboration* – There must be widespread engagement of local resources with a common agenda and mutually reinforcing activities to implement interventions more effectively.
- *Leverage evidence-based practices* – Funded interventions should be based on evidence that a model being proposed will achieve success.
- *Identify impact* – As a condition of funding, impact will be measured through the achievement of scale targets and progress goals, health improvement, and/or return on investment (ROI).
- *Ensure sustainability* – Funded interventions must have a plan for sustainability that includes both a plan to integrate successful interventions into hospital operations and a financial plan to ensure there is a permanent source of funding to continue the intervention after the grant expires.
- *Revamp grant oversight* – The HSCRC will leverage grant-making best practices and will provide additional oversight resources to ensure there is visibility, shared learning opportunities, and compliance with the intended purpose of the grant program.
- *Communicate & collaborate with stakeholders* – The HSCRC will continue the culture of collaboration with grantees to ensure information is clear, sensitive to concerns, and timely.

Competitive Regional Partnership Catalyst Grants

The new Regional Partnership Catalyst Grant program required hospitals to competitively bid on funding that will begin January 1, 2021. Funding is intended to be narrowly focused to support interventions that align with goals of the Total Cost of Care Model and support the Memorandum of Understanding that Maryland established with CMS for SIHIS. The Regional Partnership Catalyst Grant Program includes allocations of funds called "funding streams" that are designed to encourage focus on the key state priorities. The three funding streams are as follows:

- **Funding Stream I: "Diabetes Prevention & Management Programs"** – This funding stream would award grants to Regional Partnerships to support implementation of CDC-recognized Lifestyle Change programs for diabetes prevention and evidence-based diabetes management programs. Approximately 40% of the overall funding will be applied to this funding stream.
- **Funding Stream II: "Behavioral Health Crisis Services"** – This funding stream would award grants to Regional Partnerships to support the implementation and expansion of behavioral health crisis management models as described in the "Crisis Now: Transforming Services is Within Our Reach" action plan developed by the National Action Alliance for Suicide Prevention. The goal is to improve access to crisis intervention, stabilization, and treatment referral programs. Approximately 40% of the overall funding available will be applied to this funding stream.
- **Funding Stream III: "Population Health Priority Area #3"** – For fiscal year 2021, the Commission authorized the amount in this funding stream to be reallocated to the COVID-19 Long-Term Care Partnership Grant Program to address statewide issues associated with COVID-19. For fiscal year 2021 and beyond, funding will be available should the State identify a third population health priority area. Approximately 20% of the overall funding available will be applied to this funding stream.

The Commission approved the new Regional Partnership Catalyst Grant Program with an annual investment of 0.25 percent of statewide all-payer hospital revenue (approximately $45 million annually). Given the time needed to sufficiently build partnerships and infrastructure, including workforce and implementation of interventions, the grant period was approved to run for five years. The grant amounts will be added to hospital annual rates as temporary adjustments for the following five-year period:

- Year 1: CY2021 (January 1, 2021 – December 31, 2021)
- Year 2: CY2022 (January 1, 2022 – December 31, 2022)
- Year 3: CY2023 (January 1, 2023 – December 31, 2023)
- Year 4: CY2024 (January 1, 2024 – December 31, 2024)
- Year 5: CY2025 (January 1, 2025 – December 31, 2025)

- Grant funding will end on December 31, 2025

Collaboration Requirements

Because grant funding is being issued through the rate setting system, only hospitals were eligible to apply for funding. Despite this, Regional Partnership Catalyst Grant hospital applicants were required to demonstrate that widespread collaboration would be part of their proposed model. Partnerships had to include a variety of resources that could influence population health including but not limited to Local Health Improvement Coalitions, Local Health Departments, community-based organizations, local behavioral health authorities, social service organizations, provider organizations, etc.

Impact Measurement

Under the Total Cost of Care Model, the State must systematically work to reduce the cost of care for Medicare beneficiaries while also improving statewide population health for all Marylanders. Regional Partnership Catalyst Grants were designed to help develop infrastructure for long term achievement of these goals. The Catalyst Grant funds remain important mechanisms to foster partnerships across the State and to mobilize diverse community resources under a unified agenda with mutually reinforcing activities. This collaboration should contribute to the State's progress toward Total Cost of Care Model long-term population health goals.

The HSCRC staff have developed *scale targets* to ensure progress is made toward building the infrastructure needed to support long-term grant funding return on investment. Scale targets are pre-determined targets that Regional Partnerships will need to achieve during the grant period to receive continued funding. The targets have been set by HSCRC so that progress can be independently verifiable and objectively measured between Regional Partnerships. Regional Partnerships will *not* be accountable for a specific total cost of care savings goal under this grant program but instead will be held accountable to achieve scale targets related to program development progress and ultimately health outcome measures by the end of the grant period.

Evaluation Committee Process

The HSCRC staff established a competitive bidding process for the Regional Partnership Catalyst Grant Program that required interested hospitals and their partners to submit proposals describing how funding would be used. An unbiased evaluation committee was formed to review the grant proposals and make recommendations on ones that should be funded. Additionally, the HSCRC staff engaged key subject matter experts with diabetes prevention/management and behavioral health crisis management expertise to assist in the review and evaluation of grant proposals.

The evaluation committee was made up of stakeholders from across the following State agencies and partners:

- HSCRC
- Maryland Health Care Commission
- Maryland Department of Health, Public Health Services
- Maryland Department of Health, Office of Minority Health and Health Disparities
- Maryland Department of Health, Behavioral Health Administration
- Maryland Department of Health, Medicaid
- Maryland Department of Health, MDPCP Project Management Office
- Opioid Operational Command Center
- Community Health Resources Commission
- Chesapeake Regional Information System for our Patients (CRISP)

Additionally, subject matter experts from the American Diabetes Association and the National Association of State Mental Health Program Directors were engaged to provide expertise on best practices for designing and implementing diabetes and behavioral health crisis management services.

Eighteen proposals were received and reviewed by the evaluation committee. Nine of these were for the diabetes funding stream and the remaining nine were for the behavioral health crisis services funding stream. The total value of the eighteen proposals far exceeded the funding that was approved by the HSCRC Commissioners. The original requests were more than $100 million over the allowable .25 percent of statewide hospital all-payer revenue. To identify the proposals that should be recommended for funding, the evaluation committee used the following evaluation criteria that was included in the grant RFP:

- Alignment with Total Cost of Care Model Goals and population health priorities
- Widespread Engagement & Collaboration
- Evidence-Based Approach
- Outreach and Engagement Approaches
- Innovation
- Implementation Plan
- Sustainability Plan
- Budget

The evaluation committee met numerous times throughout August to review and discuss all proposals. Each proposal was scored by a minimum of ten evaluation committee members. Individual evaluator scores were then compiled to develop an average overall score for each proposal. Next, proposals were ranked

from highest to lowest overall scores within each of the funding streams. Because the Regional Partnership Catalyst Grant Program was structured as a competitive process, not all of the meritorious applicants could be recommended for an award. Only the top-ranking proposals that are within the overall funding limit for the grant program are being recommended for approval.

Recommendations

Based on its review of all proposals received, the Review Committee recommends nine grant proposals for the Regional Partnership Catalyst Grant Program 2021 – 2025 funding. Table 1 below lists the recommended awardees, the award amount, and the hospitals affected. Appendix A includes a summary of each recommended proposal.

Table 1. Recommended Awardees

Funding Stream	Partnership Name	Region	Recommended Awards	Hospitals in Proposal
Diabetes	Saint Agnes & Lifebridge	Baltimore City/County	$5,962,333	Saint Agnes, Sinai Hospital, Grace Medical Center
	Baltimore Metropolitan Diabetes Regional Partnership	Baltimore City	$43,299,986	Johns Hopkins Hospital, Johns Hopkins Bayview Medical Center, University of Maryland Medical Center Downtown, UMMC Midtown, Howard County General Hospital, Suburban Hospital
	Nexus Montgomery	Montgomery County	$11,876,430	Holy Cross Hospital, Holy Cross Germantown Hospital, MedStar Montgomery Medical Center, Shady Grove Medical Center, Suburban Hospital, White Oak Medical Center
	Totally Linking Care	Charles, Prince George's, St. Mary's counties	$7,379,620	University of Maryland Capital Region Health, MedStar Southern Maryland Hospital, MedStar St. Mary's Hospital, Adventist HealthCare, Fort Washington Medical Center, Luminis Doctors Community Hospital
	Trivergent	Allegany, Frederick, Washington Counties	$15,717,413	Frederick Health Hospital, Meritus Medical Center, and University of Pittsburgh Medical Center Western Maryland

	UM Charles Regional	Charles County	$2,214,862	University of Maryland Charles Regional Medical Center
Behavioral Health Crisis Services	Greater Baltimore Region Integrated Crisis System	Baltimore City/County, Howard, Carroll	$44,862,000	Saint Agnes Hospital, Howard County General Hospital, Johns Hopkins Bayview Medical Center, Johns Hopkins Hospital and Health System, Grace Medical Center, Sinai Hospital, Northwest Hospital, Carroll Hospital, MedStar Good Samaritan Hospital, MedStar Harbor Hospital, MedStar Union Memorial Hospital, MedStar Franklin Square Medical Center, University of Maryland Medical Center,Univ. of Maryland-St. Joseph Medical Ctr, Univ. of Maryland Medical Center-Midtown Campus, Mercy Medical Center, Greater Baltimore Medical Center
	Total Linking Care	Prince George's, Southern, MD	$22,889,722	Adventist HealthCare Fort Washington Medical Center, MedStar Southern Maryland Hospital Center, University of Maryland Prince George's Hospital Center, University of Maryland Laurel Medical Center
	Peninsula Regional	Lower Eastern Shore	$11,316,332	Peninsula Regional Medical Center, Atlantic General Hospital
TOTAL :			**$165,428,698**	**Diabetes – 28 Member Hospitals** **Behavioral Health – 39 Member Hospitals**

Appendix A - Summary of Grant Proposals Recommended for Award

Diabetes

Saint Agnes and Lifebridge -$5,962,333

- Expand evidence-based diabetes education and Diabetes Prevention Program by recruiting, training, and supporting twelve Certified DPP LifeStyle coaches within the community.
- Improve access to healthy food for individuals with prediabetes/diabetes by expanding virtual supermarket access to food insecure patients.

Baltimore Metropolitan Diabetes Regional Partnership-$43,299,986

- Establish centralized management services for their Diabetes Prevention Program and Diabetes Self-Management Training.
- Build partnerships with community stakeholders such as faith-based, senior citizen centers, community engagement centers.
- Expand DSMT sites beyond the hospital outpatient clinics.
- Integrate social needs wrap around services including food security and transportation.
- Build technology infrastructure for information transfer throughout the State

Nexus Montgomery-$11,876,430

- Improve the supply of DPP & DSMT Providers and Programs by increasing capacity support and process improvement.
- Increase the demand for DPP & DSMT Programs through public outreach campaigns to raise program awareness.
- Ensuring Diabetes outcomes through Referral and Case Management

Totally Linking Care -$7,379,620

- Expansion of the number of DPPs and DSMTs operating in the target region
- Expansion of outreach, screening, and referrals to DPPs and DSMTs
- Expansion of wrap around services to support engagement and retention in and completion of DPPs or DSMTs programs.
- Establish training and technical assistance to healthcare and social service providers to support DPP and DSMT programs.

Trivergent - $15,717,413

- Increase the number of certified leaders, participant recruitment and retention, and class offerings for DPP
- Rapidly expand virtual, in-person and hybrid capabilities of DSMT
- Implement and expand evidence-based nutrition and physical activity programs into current patient practice and coordinate external partners
- Integrate mental health screenings into patient intake
- Partner with community based organizations and deploy Community Health Workers to engage communities in social need screening and resource navigation

UM Charles Regional - $2,124,862

- Expand Diabetes Self-Management Training services by hiring a full time RN CDCES and full-time Dietician.
- Offer wrap around services including medical nutrition therapy, home visits, telehealth, pulmonary exercise, on demand transportation, patient support groups, and medication delivery.
- Utilize Community Health Workers, Lifestyle coaches, nurse navigators and pharmacist technicians to provide social support for patients, increase participation and engagement.

Behavioral Health Crisis Services

Greater Baltimore Region Integrated Crisis System-$44,862,000

- Establish a regional Care Traffic Control system by implementing a single hotline to take and manage calls from people struggling with substance abuse and/or experiencing a mental health crisis.
- Expand Mobile Crisis Teams (MCT) to help create diversion opportunities for patients who go to the ED but do not require a high-level intervention.
- Expand access to immediate-need behavioral health services by piloting the Same Day Access (SDA) program

Totally Linking Care-$22,889,722

- Enhance Prince George's County Response System through technological enhancements.
- Expand mobile crisis teams throughout Prince George's County.
- Establish a crisis receiving facility accepting individuals in crisis 24/7/365 on a walk-in self-referred basis

Peninsula Regional - $11,316,332

- Increase behavioral health crisis care for individuals by establishing a regional behavioral healthcare urgent care center (BHUCC).
- Centralize and regionalize 2 mobile crisis programs with the BHUCC.

Appendix B - Regional Partnership Community Partners

Funding Stream	Regional Partnership	Community Collaborators
Diabetes	**Saint Agnes and LifeBridge**	Catholic Charities/My Brother's Keeper
		Baltimore Medical System
		Healthcare for the Homeless
		Baltimore City Health Department
		Meals on Wheels
		Moveable Feast
		Hungry Harvest
		Northwest Faith Based Partnership
		Comprehensive Housing Assistance Incorporated
		Central Baptist Church
		Enterprise Community Development
		UEmpower Maryland "The Food Project"
Diabetes	**Baltimore Metropolitan Diabetes Regional Partnership**	Baltimore City Health Department
		American Diabetes Association
		American Heart Association
		The Johns Hopkins Brancati Center for Advancement of Community Care
		Walgreens
		University of Maryland, Baltimore Community Engagement Center
		Health Resources Community Collaboration
		Johns Hopkins Community Physicians
		Masjid ul Haqq, Inc
		Perkins Square Baptist Church
		Chase Brexton
		Johns Hopkins Centro Sol
		Priority Partners
		Baltimore CONNECT
		Hungry Harvest/Produce in a Snap
		Lyft
		Bethesada Newtrition and Wellness Solutions
		Manna Food Center
		Foer's Pharmacy
		Roundtrip

		Potomac Physicians Associates
		Villages of Montgomery County
		Montgomery County Senior Recreation Centers
		Health Montgomery
		Columbia Medical Practice
Diabetes	**Nexus Montgomery**	One Quality Health CTO
		Holy Cross Health CTO
		Medstar Accountable Care
		Potomac Physicians Associates
		Privia Health
		Maryland Collaborative Care
		Kaiser Permanente
		Johns Hopkins Medical Alliance
		YMCA
		Bethesada Newtrition and Wellness Solutions
		Health Care Dynamics Inc
		Giant Food
		Montgomery County DHHS
		Maryland National Capital Park and Planning Commission
		AARP
		American Diabetes Association
		The Johns Hopkins Brancati Center for Advancement of Community Care
		Primary Care Coalition
Diabetes	**Totally Linking Care**	Prince George's County Health Department
		Prince George's County Local Health Improvement Coalition
		Charles County Health Department
		Charles County Local Health Improvement Coalition
		St. Mary's County Health Department
		St. Mary's County Health Improvement Coalition
		MedChi
		Maryland Center for Health Equity
		Nutrition and Diabetes Education Center LLC
		HCD International
		Diabetes Self Care Management Institute, LLC
		Community Health Education and Research Corp.

		Vibrant Health and Wellness Foundation
		PGC AoA Living Well Program/Medical Mall Services of Maryland
		Medical Office of Rodney Ellis, MD, PC
		Health Quality Innovators
		UMD School of Pharmacy P3 Pharmacy Network
		Prince George's Healthcare Alliance, Inc
		Access Health
		UMD School of Public Health
		Maryland Rural Health Association
		Institute of Public Health Innovation
		Giant Foods
		Lifestyles of Maryland Foundation
		Southern Maryland Tri-County Community Action Committee
		Uber Health
		Lyft Grocery Access
		Southern Management Corporation
		Dr. Shameka Fairbanks
		ClinicMax Inc.
		The Coordinating Center
Diabetes	**Trivergent**	Frederick County Health Department
		Maintaining Active Citizens/Living Well Center for Excellence
		YMCA
		Frederick Integrated Healthcare Network
		Frederick City and County Housing Authority
		Share Food Network
		Frederick Food Bank
		Frederick County Chamber of Commerce
		Frederick County Health Improvement Coalition
		The Mission of Mercy
		Frederick County Fire and Rescue
		Commission on Aging
		Washington County Health Department
		Boys and Girls Club
		Maryland Area Health Education Center West

		Allegany County Health Department
		Associated Charities
		Western Maryland Food Bank
		Human Resources Development Council
		Aramark
		Allegany County Health Planning Coalition
Diabetes	**UM Charles Regional**	UMMS
		Charles County Health Department
		Greater Baden Medical Services
		Health Partners
		Charles County United Way FLINT
		Charles County Mobile Integrated Healthcare
		UM Charles Regional Medical Endocrinologist PCP Group
		Lyft Health Concierge Services
Behavioral Health Crisis Services	**Greater Baltimore Region Integrated Crisis System**	Carroll Hospital
		Grace Medical System
		Greater Baltimore Medical System
		Howard County General Hospital
		Johns Hopkins Bayview Medical Center
		Johns Hopkins Hospital
		MedStar Franklin Square Medical Center
		MedStar Good Samaritan Hospital
		MedStar Harbor Hospital
		MedStar Union Memorial Hospital
		Mercy Medical Center
		Northwest Hospital
		Siani Hospital
		Saint Agnes Hospital
		University of Maryland Medical Center
		University of Maryland Medical Center Midtown
		University of Maryland St. Joseph Medical Center
		Baltimore City Health Department
		Baltimore County Health Department
		Behavioral Health System of Baltimore
		Carroll County Health Department

		Collaborative Planning and Implementation Committee for Baltimore City Consent Decree
		Howard County Executive's Office
		Howard County Police Department
		Howard County Department of Fire and Rescue/911
		Howard County Department of Community Resources and Services
		Howard County Health Department
		Howard County Local Health Improvement Coalition
		Horizon Foundation of Howard Co, Inc.
		AARP Maryland
		Bmore Clubhouse
		FreeState Justice
		Maryland Citizens' Health Initiative /Health Care for All!
		MedChi, The Maryland Medical Society
		The Mental Health Association of Maryland
		National Alliance on Mental Illness (NAMI) Howard County
		On Our Own
		The Trill Foundation/Greg Riddick Sr.
		Baltimore City Community College
		Carroll County Community College
		Howard County Public School System
		Carefirst
		Cigna
		Kaiser Permenente
		Mid Atlantic Business Group on Health
Behavioral Health Crisis Services	**Totally Linking Care**	Prince George's County Health Department
		Behavioral Health Advisory Group of the Prince George's County Health Action Coalition
		American Society of Addiction Medicine
		Optum Maryland
		The Local Behavioral Health Authority
		CASA
		Prince George's County Department of Corrections
		Aetna
		Prince George's County Public Schools

		Prince George's County Park and Planning
		Bowie State University
		University of Maryland College Park
		iMind Behavioral Health
		Mary's Center
		NAMI
		PG Co Healthcare Alliance
		Prince George's County Department of Social Services
		Prince George's County Office of the County Executive
		Affiliated Sante Group
		Mindoula
		Volunteers of America
		Safe Journey House
		Prince George's County Police Department
		Prince George's County Office of the Sheriff
		Prince George's County District Court
		Prince George's County Department of Social Services
		Prince George's Healthcare Alliance, Inc
		Behavioral Health Services and Systems Management, LLC
Behavioral Health Crisis Services	**Peninsula Regional**	Chesapeake Health Services
		Life Crisis Center
		Lower Shore Clinic
		Recovery Resource Center
		Sante Mobile Crisis
		National Alliance on Mental Illness (NAMI)
		Somerset County Health Department
		Wicomico County Health Department
		Worcester County Health Department

Maryland
Hospital Association

October 20, 2020

Tequila Terry, MBA, MPH
Principal Deputy Director, Payment Reform & Provider Alignment
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, Maryland 21215

Dear Ms. Terry,

On behalf of the Maryland Hospital Association's 61 member hospitals and health systems, we support the Health Services Cost Review Commission's (HSCRC) recommendation to invest $165.4 million over five years to build the behavioral health crisis infrastructure and to reduce the impact of diabetes on Marylanders. As the lead entities, hospitals were required to partner with community organizations to implement the programs. We were pleased that nearly 200 partners are named in the grants. These investments and partnerships, along with other private and state-led strategies, are essential to ensure Maryland meets the targets that will be set in the Statewide Integrated Health Improvement Strategy (SIHIS).

Regardless of whether the State names a third population health priority in the SIHIS, HSCRC should award the full $225 million in Regional Partnership funding approved in November 2019. Requests for the behavioral health and diabetes partnership grants exceeded the awarded amount by more than $100 million. This demonstrates the magnitude of unmet need and shovel-ready diabetes and behavioral health projects that will go unfunded. With $165.4 million recommended for behavioral health crisis and diabetes prevention and management, and $10 million in Long-Term Care Partnerships approved earlier this year, about $49.6 million remains. In addition to the behavioral health and diabetes needs, work groups are identifying interventions that need to expand to lessen disparities and improve maternal and child health.

We appreciate the opportunity to comment on this worthwhile grant funding program. Please do not hesitate to reach out to me with any questions.

Sincerely,

Traci LaValle, Senior Vice President

cc: Adam Kane, Esq., Chairman
Joseph Antos, Ph.D., Vice Chairman
Victoria W. Bayless
Stacia Cohen, RN, MBA
John M. Colmers
James N. Elliott, M.D.
Sam Malhotra
Katie Wunderlich, Executive Director

Behavioral Health System Baltimore

October 23, 2020

Health Services Cost Review Commission
4160 Patterson Ave
Baltimore, MD 21215

Subject: Recommendations for Funding for the Regional Partnership Catalyst Grant Program Awards

Dear Chair Kane and Members of the Commission:

As you consider recommendations for the to the Health Services Cost Review Commission (HSCRC) Regional Partnership Catalyst Grant Program, the undersigned organizations request that you approve full funding for the Greater Baltimore Regional Integrated Crisis System (GBRICS) Partnership.

The GBRICS Regional Partnership ("GBRICS") will invest $45 million over five years in behavioral health crisis response infrastructure and services, with the goal of reducing unnecessary emergency department use and police interactions for people experiencing behavioral health crises. GBRICS builds upon the strengths of the current behavioral health crisis system and aligns with the Crisis Now model, a nationally recognized framework for comprehensive behavioral health crisis care. Over the course of the five years, GBRICS will:

- Create a regional hotline that is supported with technology for real-time capacity and care coordination across the system of care.
- Promote the regional hotline as an alternative to calling 911 or using EDs for crisis care.
- Increase the availability of mobile crisis teams (MCT), a team of mental health professionals, to be 24 hours a day, 7 days a week.
- Support outpatient providers to offer walk-in/virtual behavioral health services to address immediate needs.
- Establish a GBRICS Council to support accountability and sustainability of the initiative.

GBRICS was developed with the collaboration of 17 hospitals, four local behavioral health authorities, and behavioral health experts and leaders across these jurisdictions. In addition, GBRICS enjoys more than 25 letters of support from local elected officials and members of the General Assembly from all four of the local jurisdictions.

As the COVID-19 pandemic continues, the need for behavioral health support services will only increase. As such, robust behavioral health crisis services can help countless individuals overcome life-threatening crises, reduce ED use, and serve as a key access point into the broader system of care.

Thank you for considering our testimony and we urge the Commission approve the GBRICS Partnership proposal at the November 2020 meeting.

Sincerely,

Behavioral Health System Baltimore
Carroll Hospital (LifeBridge Health System)
Grace Medical Center (LifeBridge Health System)
Greater Baltimore Medical Center
Howard County General Hospital (Hopkins Health System)
Johns Hopkins Bayview Medical Center (Hopkins Health System)
Johns Hopkins Hospital (Johns Hopkins Health System)
MedStar Franklin Square Medical Center (Medstar Health System)
MedStar Good Samaritan Hospital (Medstar Health System)
MedStar Harbor Hospital (Medstar Health System)
MedStar Union Memorial Hospital (Medstar Health System)
Mercy Medical Center
Northwest Hospital (LifeBridge Health System)
Sinai Hospital (LifeBridge Health System)
Saint Agnes Hospital (Ascension Health System)
University of Maryland Medical Center (UMMS Health System)
Univ. of Maryland St. Joseph Medical Center (UMMS Health System)
Univ. of Maryland Medical Center Midtown (UMMS Health System)

Maria Harris Tildon
Executive Vice President
Marketing, Communications & External Affairs

CareFirst BlueCross BlueShield
1501 S. Clinton Street, Suite 700
Baltimore, MD 21224-5744
Tel. 410-605-2591
Fax 410-505-2855

October 28, 2020

Adam Kane, Chairman
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, Maryland 21215

Dear Chairman Kane:

CareFirst appreciates the opportunity to comment on the "Draft Recommendation on Regional Partnership Catalyst Grant Program." We commend the HSCRC Staff on its implementation of the grant program and we support the Draft Recommendation on funding as proposed.

The Commission's focus on population health goals related to diabetes and behavioral health is consistent with CareFirst's health priorities for our members. We believe strongly that collaboration between hospitals and community providers is a key element in a successful total cost of care model. The inclusion of 23 hospitals and 116 non-hospital partners in the diabetes grants, followed by 23 hospitals and 67 non-hospital partners in the behavioral health grants, demonstrates that your evaluation process prioritized this community collaboration.

CareFirst is particularly encouraged by the fact that grantees' initiatives will be measured and evaluated through the achievement of scale targets and progress goals for health improvement and return on investment. We hope that these targets will be reviewed annually for performance on the express goals and targets, as well as compliance with partnership arrangements as submitted in the grant proposals. We are also hopeful that these reviews will be made available to the public. If a grantee is not meeting their annual targets or generally not complying with the partnership arrangements, HSCRC Staff should have the authority to discontinue a grant or reduce grant funding.

Finally, though not mentioned in the draft funding recommendation, we strongly support the addition of maternal and child health as a third population health area of focus for the program and for future funding of collaborations.

Again, we thank you for this opportunity to share our support and thoughts regarding this Draft Recommendation, and we would be happy to share our experience in addressing the population health issues related to diabetes, behavioral health, and maternal and child health in an effort to help ultimately achieve success in improving overall population health in Maryland.

Sincerely,

Maria Harris Tildon

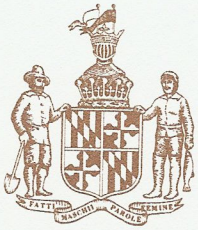
Cc: Joseph Antos, Ph.D., Vice Chairman
Victoria Bayless
Stacia Cohen, R.N.
John Colmers
James N. Elliott, M.D.
Sam Malhotra
Katie Wunderlich, Executive Director

JOSELINE A. PEÑA-MELNYK
Legislative District 21
Prince George's and
Anne Arundel Counties

Vice Chair
Health and Government
Operations Committee

Subcommittees
Government Operations and
Long Term Care

Chair, Public Health and
Minority Health Disparities



Annapolis Office
The Maryland House of Delegates
6 Bladen Street, Room 241
Annapolis, Maryland 21401
410-841-3502 · 301-858-3502
800-492-7122 *Ext.* 3502
Fax 410-841-3409 · 301-858-3409
Joseline.Pena.Melnyk@house.state.md.us

District Office
P. O. Box 1251
College Park, Maryland 20741-1251

The Maryland House of Delegates
ANNAPOLIS, MARYLAND 21401

October 22, 2020

Mr. Adam Kane, Chairman
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, MD 21215

SUBJECT: Regional Partnership Catalyst Grants

Dear Chairman Kane,

I recently received a briefing on the Greater Baltimore Regional Integrated Crisis System (GBRICS) Partnership application for the Regional Partnership Catalyst Grant for Behavioral Health Crisis Services. I was thrilled to learn of the potential that this partnership has to improve the lives of individuals struggling with behavioral health issues. I was equally thrilled to learn that the GBRICS proposal has received preliminary approval for funding.

It is my understanding that GBRICS is a collaboration of seventeen hospitals, four Local Behavioral Health Authorities, and many community organizations across Baltimore City, Baltimore County, Carroll County and Howard County. The breadth of this collaboration across multiple jurisdictions creates a meaningful opportunity to expand, strengthen and standardize behavioral health crisis services across Maryland.

As Vice Chair of the Maryland General Assembly House Government Operations Committee, I am well aware that access to behavioral health services for individuals in crisis is a challenge across all of Maryland, resulting in overutilization of hospital emergency departments and jails – which are undoubtedly, not an ideal setting for individuals experiencing a mental health or substance use crisis. Too often, I hear from constituents who cannot access the behavioral health services they need during a time of crisis.

Throughout my tenure as an elected official, I have concentrated on addressing the gaps in our behavioral health care system. Last session, I introduced legislation to establish a Maryland Mental Health and Substance Use Disorder Registry and Referral System. I also serve as a member of Joint Committee on Behavioral Health and Opioid Use Disorders. As Chairman of the Public Health and Minority Health Disparities Subcommittee, I have championed policies to address health inequity. I believe GBRICS aims to address many of the

policies and issues that are of highest priority to myself and other members of the General Assembly. GBRICS aims to transform the delivery of behavioral health crisis services in the Baltimore Region by expanding access to behavioral services using a data driven, evidence-based approach.

I am confident that the GBRICS proposal will transform the delivery of behavioral services, resulting in decreased hospital utilization and dependence on law enforcement to respond to individuals in crisis. Instead, serving individuals in a lower cost, more appropriate community-based setting.

The GBRICS proposal has my full support. I ask that you approve this outstanding proposal.

Sincerely,

Joseline Peña-Melnyk

Cc:
Joseph Antos, Ph.D., Vice Chairman
Victoria W. Bayless
Stacia Cohen, RN
John M. Colmers
James Elliott, MD
Sam Maholtra

maryland
health services
cost review commission

Final Recommendation for the Maryland Hospital Acquired Conditions Program for Rate Year 2023

November 12, 2020

This document contains the final staff recommendations for the Maryland Hospital Acquired Conditions Program for RY 2023, ready for Commission Action.

P: 410.764.2605 ● 4160 Patterson Avenue | Baltimore, MD 21215 ● hscrc.maryland.gov

maryland
health services
cost review commission

Table of Contents

maryland
health services
cost review commission

List of Abbreviations

AHRQ	Agency for Health Care Research and Quality
APR-DRG	All Patients Refined Diagnosis Related Groups
CMS	Centers for Medicare & Medicaid Services
CY	Calendar Year
DRG	Diagnosis-Related Group
FFY	Federal Fiscal Year
FY	State Fiscal Year
HAC	Hospital-Acquired Condition
HAI	Hospital Associated Infection
HSCRC	Health Services Cost Review Commission
ICD	International Statistical Classification of Diseases and Related Health Problems
MHAC	Maryland Hospital-Acquired Condition
NHSN	National Healthcare Safety Network
NQF	National Quality Forum
PMWG	Performance Measurement Work Group
POA	Present on Admission
PPC	Potentially Preventable Complication
PSI	Patient Safety Indicator
QBR	Quality-Based Reimbursement
RY	Rate Year
SIR	Standardized Infection Ratio
SOI	Severity of Illness
TCOC	Total Cost of Care
VBP	Value-Based Purchasing
YTD	Year to Date

maryland
health services
cost review commission

Key Methodology Concepts and Definitions

Potentially preventable complications (PPCs): 3M originally developed 65 PPC measures, which are defined as harmful events that develop after the patient is admitted to the hospital and may result from processes of care and treatment rather than from the natural progression of the underlying illness. PPCs, like national claims-based hospital-acquired condition measures, rely on **present-on-admission codes** to identify these post-admission complications.

At-risk discharge: Discharge that is eligible for a PPC based on the measure specifications

Diagnosis-Related Group (DRG): A system to classify hospital cases into categories that are similar clinically and in expected resource use. DRGs are based on a patient's primary diagnosis and the presence of other conditions.

All Patients Refined Diagnosis Related Groups (APR-DRG): Specific type of DRG assigned using 3M software that groups all diagnosis and procedure codes into one of 328 All-Patient Refined-Diagnosis Related Groups.

Severity of Illness (SOI): 4-level classification of minor, moderate, major, and extreme that can be used with APR-DRGs to assess the acuity of a discharge.

APR-DRG SOI: Combination of Diagnosis Related Groups with Severity of Illness levels, such that each admission can be classified into an APR-DRG SOI "cell" along with other admissions that have the same Diagnosis Related Group and Severity of Illness level.

Case-Mix Adjustment: Statewide rate for each PPC (i.e., normative value or "norm") is calculated for each diagnosis and severity level. These **statewide norms** are applied to each hospital's case-mix to determine the expected number of PPCs, a process known as **indirect standardization**.

Observed/Expected Ratio: PPC rates are calculated by dividing the observed number of PPCs by the expected number of PPCs. Expected PPCs are determined through case-mix adjustment.

Diagnostic Group-PPC Pairings: Complications are measured at the diagnosis and Severity of Illness level, of which there are approximately 1,200 combinations before one accounts for clinical logic and PPC variation.

Zero norms: Instances where no PPCs are expected because none were observed in the base period at the Diagnosis Related Group and Severity of Illness level.

maryland
health services
cost review commission

Policy Overview

Policy Objective	Policy Solution	Effect on Hospitals	Effect on Payers/Consumers	Effects on Health Equity
The quality programs operated by the Health Services Cost Review Commission, including the Maryland Hospital Acquired Conditions (MHAC) program, are intended to ensure that any incentives to constrain hospital expenditures under the Total Cost of Care Model do not result in declining quality of care. Thus, HSCRC's quality programs reward quality improvements and achievements that reinforce the incentives of the Total Cost of Care Model, while guarding against unintended consequences and penalizing poor performance.	The MHAC program is one of several pay-for-performance quality initiatives that provide incentives for hospitals to improve and maintain high-quality patient care and value over time.	The MHAC policy currently holds 2 percent of hospital revenue at-risk for complications that may occur during a hospital stay as a result of treatment rather than the underlying progression of disease. Examples of the types of hospital acquired conditions included in the current payment program are respiratory failure, pulmonary embolisms, and surgical-site infections.	This policy affects a hospital's overall GBR and so affects the rates paid by payers at that particular hospital. The HSCRC quality programs are all-payer in nature and so improve quality for all patients that receive care at the hospital.	Historically the MHAC policy included the better of improvement and attainment, which incentivized hospitals to improve poor clinical outcomes that are often emblematic of disparities. The protection of improvement has since been phased out to ensure that poor clinical outcomes and the associated health disparities are not made permanent, which is especially important for a measure that is limited to in-hospital complications. In the future, the MHAC policy may provide direct hospital incentives for reducing disparities, similar to the approved readmission disparity gap improvement policy.

Recommendations

The MHAC policy was redesigned in Rate Year (RY) 2021 to modernize the program for the new Total Cost of Care Model. This RY 2023 final recommendation, in general, maintains the measures and methodology that were developed and approved for RY 2022.[1]

These are the final recommendations for the RY 2023 Hospital-Acquired Conditions (MHAC) policy:

1. Continue to use 3M Potentially Preventable Complications (PPCs) to assess hospital acquired complications.
    a. Maintain a focused list of PPCs in the payment program that are clinically recommended and that generally have higher statewide rates and variation across hospitals.
    b. Monitor all PPCs and provide reports for hospitals and other stakeholders.
        i. Evaluate PPCs in "Monitoring" status that worsen and consider inclusion back into the MHAC program for RY 2024 or future policies.
2. Use more than one year of performance data for small hospitals (i.e., less than 20,000 at-risk discharges and/or 20 expected PPCs). The performance period for small hospitals will be CY 2021 plus the to be determined performance period for RY 2022 (i.e., January-June 2020 data will not be used).
3. Continue to assess hospital performance on attainment only.
4. Continue to weigh the PPCs in the payment program by 3M cost weights as a proxy for patient harm.
5. Maintain a prospective revenue adjustment scale with a maximum penalty at 2 percent and maximum reward at 2 percent and continuous linear scaling with a hold harmless zone between 60 and 70 percent.
6. Adjust the MHAC pay-for-performance program methodology as needed due to COVID-19 Public Health Emergency and report to Commissioners as follows:
    a. For RY 2022 (CY 2020 performance period)
        i. Exclude COVID-19 positive cases from the program.
        ii. Exclude the data for January to June 2020 and evaluate the reliability and validity of the data for July-December 2020 to determine feasibility of its use and any

[1] See the RY 2022 policy for detailed discussion of the MHAC redesign, rationale for decisions, and approved recommendations

needed changes for the RY 2022 payment adjustments.

iii. Evaluate case-mix adjustment and performance standards concerns arising from use of a pre-COVID time period to determine normative values.

b. For RY 2023 (CY 2021 performance period)

i. Update PPC Grouper to v38 and include COVID-19 positive cases consistent with the clinical updates to the grouper.

ii. Retrospectively evaluate case-mix adjustment and performance standards concerns arising from inclusion of COVID-19 patients and the use of a pre-COVID time period to determine normative values.

Introduction

Since 2014, Maryland hospitals have been funded under a Population-Based Revenue system, 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 to the most appropriate setting of care, and may keep savings that they achieve via improved health care delivery (e.g., reduced avoidable utilization, readmissions, hospital-acquired infections). It is important that the Commission ensure that any incentives to constrain hospital expenditures do not result in declining quality of care. Thus, the Maryland Health Services Cost Review Commission's (HSCRC's or Commission's) quality programs reward quality improvements and achievements that reinforce the incentives of the Population-Based Revenue system, while guarding against unintended consequences and penalizing poor performance.

The Maryland Hospital Acquired Conditions (MHAC) program is one of several pay-for-performance initiatives that provide incentives for hospitals to improve and maintain high-quality patient care and value over time. The MHAC policy currently holds 2 percent of hospital revenue at-risk for complications that may occur during a hospital stay as a result of treatment rather than the underlying progression of disease. Examples of the types of hospital acquired conditions included in the current payment program are respiratory failure, pulmonary embolisms, and surgical-site infections.

With the commencement of the Total Cost of Care (TCOC) Model Agreement with CMS on January 1, 2019, the performance standards and targets in HSCRC's portfolio of quality and value-based payment programs are being reviewed and updated. This is in response to stakeholder requests that these policies be reviewed to ensure they remain in line with the goals of the Model and that they maintain methodological validity. Additionally, because the State must also request annual exemptions from the CMS Hospital Acquired Conditions (HAC) program as well as the other quality programs in the State, another key aspect of these reviews is to demonstrate that Maryland's program results continue to be aggressive and progressive, i.e., meeting or surpassing those of the nation. In CY 2018, staff focused on the MHAC program redesign and convened a Clinical Adverse Events Measure (CAEM) subgroup with clinical and measurement expertise who made recommendations that were then further evaluated by the Performance Measurement Workgroup (PMWG) and approved by the Commission.

The major accomplishments of the MHAC program redesign were focusing the payment incentives on a narrower list of clinically significant complications, moving to an attainment only system given Maryland's sustained improvement on complications, adjusting the scoring methodology to better differentiate hospital performance, and weighting complications by their associated cost weights as a proxy for patient harm. The redesign also assessed how hospital performance is converted to revenue adjustments, and ultimately

recommended maintaining the use of a linear prospective revenue adjustment scale with a hold harmless zone.

Due to the recent MHAC program redesign and the ongoing COVID-19 Public Health Emergency (PHE), this RY 2023 final MHAC policy does not propose major changes to the program. Furthermore, the assessment section focuses on 2019 data because CMS has suspended use of claims-based data from January to June 2020. The RY 2022 policy will therefore need to be amended to reflect the exclusion of six months of the planned performance period.[2] However, as we are still under the COVID-19 PHE, and just recently able to review July 2020 and onward data, it is too early for staff to propose comprehensive changes to the RY 2022 quality policies. COVID-19 positive patients are more likely to experience a respiratory PPC, and 3M will exclude these PPCs for COVID patients from their grouper logic in the newly released PPC Grouper version 38. Staff has worked with 3M and proposes to exclude COVID-19 positive patients from the RY 2022 pay-for-performance program, which uses PPC grouper version 37 that assigns respiratory PPCs to COVID positive patients. The HSCRC staff anticipates bringing amended RY 2022 policies to the Commission in February 2021 at the earliest, upon review of the data from the second half of CY 2020. While the PHE is ongoing, the HSCRC remains committed to ensuring that inpatient quality for all patients seeking care remains high. Analysis of June and July 2020 inpatient volumes suggests that the inpatient volume has mostly returned to pre-COVID levels, and so we will propose a RY 2023 MHAC policy here, with the understanding that we will revisit this policy if the PHE trends change.

Background

Exemption from Federal Hospital-Acquired Condition Programs

The Federal Government operates two hospital complications payment programs, the Deficit Reduction Act Hospital Acquired Condition program (DRA-HAC), which reduces reimbursement for hospitalizations with inpatient complications, and the HAC Reduction Program (HACRP), which penalizes hospitals with high rates of complications. Detailed information, including HACRP complication measures, may be found in Appendix I.

Because of the State's unique all-payer hospital model and its population based revenue system, Maryland does not directly participate in the federal pay-for-performance programs. Instead, the State administers the Maryland Hospital Acquired Conditions (MHAC) program, which relies on quality indicators validated for use with an all-payer inpatient population. However, the State must submit an annual report to CMS demonstrating that Maryland's MHAC program targets and results continue to be aggressive and

[2] CMS Announces Relief for Clinicians, Providers, Hospitals and Facilities Participating in the Quality Reporting Programs in Response to COVID-19

progressive, i.e. that Maryland's performance meets or surpasses that of the nation. Specifically, the State must ensure that the improvement in complication rates observed under the All-Payer Model is maintained. CMS granted Maryland exemption from the federal pay-for-performance programs (including the HAC Reduction Program) for Federal Fiscal Year 2021 on September 29, 2020.

Overview of the MHAC Policy

The MHAC program, which was first implemented for RY 2011, is based on a system developed by 3M Health Information Systems (3M) to identify potentially preventable complications (PPCs) using present-on-admission codes available in claims data. 3M originally developed specifications for 65 PPCs[3], which are defined as harmful events that develop after the patient is admitted to the hospital and may result from processes of care and treatment rather than from the natural progression of the underlying illness. For example, the program holds hospitals accountable for pulmonary embolisms and surgical-site infections that occur during inpatient stays. These complications can lead to 1) poor patient outcomes, including longer hospital stays, permanent harm, and death; and 2) increased costs. Thus, the MHAC program is designed to provide incentives to improve patient care by adjusting hospital budgets based on PPC performance.

MHAC Redesign

With the exception of maintaining the linear scaling with a hold harmless zone to determine hospital rewards and penalties, the MHAC policy was substantially overhauled for RY 2021. The policy updates included:

- Selecting a narrowed list of 14 PPC complication measures to focus on the most clinically meaningful and significant measures for use in the payment program.
- Using two years of data for establishing normative values to address case-mix concerns.
- Assessing hospital performance on attainment-only, rather than continuing to credit improvement.
- Modifying the scoring methodology to better differentiate hospital performance.
- Weighting complications using 3M cost weights as proxies for patient harm.

The approved RY 2022 policy maintained the above changes and was updated to include use of two years of performance data for small hospitals (i.e., less than 20,000 at-risk discharges and/or 20 expected PPCs).

[3] In RY 2020, there were 45 PPCs or PPC combinations included in the program, from an initial 65 PPCs in the software, as 3M had discontinued some PPCs and others were deemed not suitable for a pay-for-performance program.

MHAC Methodology

Figure 1 provides an overview of the three steps in the RY 2022 MHAC methodology[4] that converts hospital performance to standardized scores, and then payment adjustments, as outlined below:

Step 1. For the PPCs identified for payment, global and hospital-level exclusions are determined.

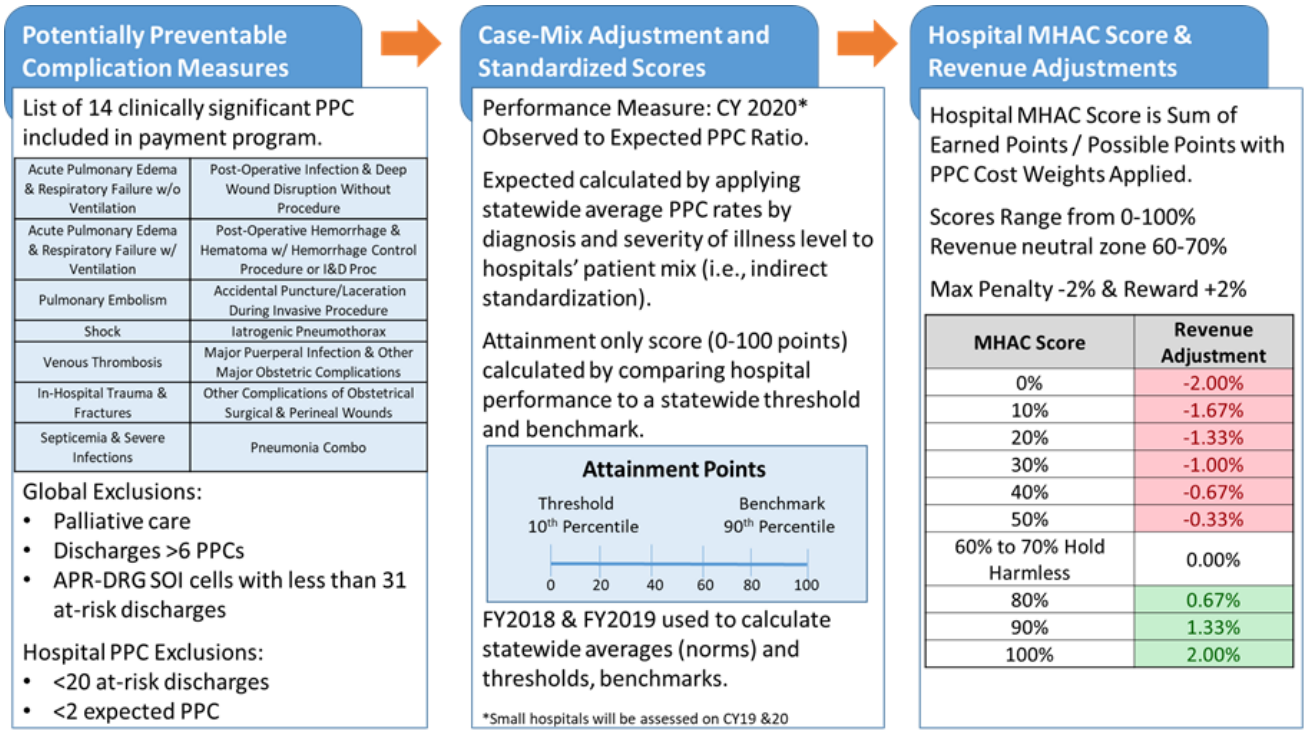
Step 2. Case-mix adjustment is used to calculate observed to expected ratios that are then converted to a standardized point based score (0-100 points) based on each hospital's attainment levels using the same scoring methodology that is used for CMS Value-Based Purchasing and Maryland QBR program.

Step 3. Overall hospital scores are then calculated by taking the points for each PPC and multiplying by the 3M PPC cost weights, then summing numerator (points scored) and denominator (possible points) across the PPCs to calculate a percent score. A linear point scale set prospectively is then used to calculate the revenue adjustment percent. This prospective scaling approach differs from national programs that relatively rank hospitals after the performance period.

Additional information on the current MHAC policy for RY 2022 can be found in Appendix II.

[4] Due to COVID-19 PHE, this methodology will need to be retrospectively adjusted, pending future CMS guidance, and to address any future surge in COVID cases.

Figure 1. Overview Rate Year 2022 MHAC Methodology



Assessment

In order to develop the RY 2023 MHAC policy, staff solicited input from the PMWG and other stakeholders. In general, stakeholders support the staff's recommendation to not make major changes to the RY 2023 MHAC program. This section of the report provides an overview of the data and issues discussed by the PMWG, including analysis of statewide PPC trends, estimated hospital scores, and revenue adjustment modelling.

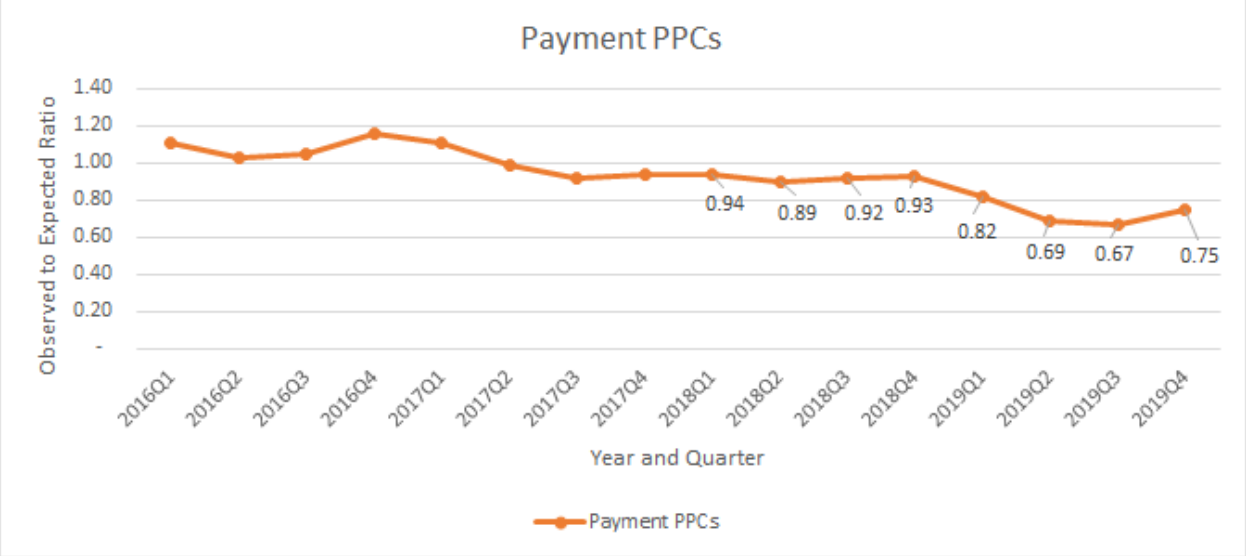
Statewide PPC Performance Trends

Complications Included in Payment Program

Under the All-Payer Model, Maryland hospitals saw a dramatic decline in complications and, as a State, well exceeded the requirement of a 30 percent reduction by the end of CY 2018. These reductions were achieved through clinical quality improvement, as well as improvements in documentation and coding. As mentioned previously, the MHAC redesign assessed which PPCs should be included in the pay-for-performance program based on criteria developed by the CAEM subgroup. The criteria included clinical significance, opportunity for improvement, sample size considerations, and variation across hospitals.

Under the TCOC Model, Maryland must maintain these improvements by not exceeding the CY 2018 PPC rates. Figure 2 below shows the statewide observed to expected (O/E) ratio from 2016 through CY 2019.[5] The O/E ratio presents the count of observed PPCs divided by the calculated number of expected PPCs (which is generated using normative values applied to the case-mix of discharges a hospital experiences). An O/E Ratio of greater than 1 indicates that a hospital experienced more PPCs than expected, and conversely, an O/E Ratio less than one indicates that a hospital experienced fewer PPCs than expected. The figure below also indicates how Maryland is performing relative to CY 2018, which is the time period that will be used to assess any backsliding on performance. Specifically, the CY 2019 performance data for payment program PPCs show that there has been about a 20 percent reduction in the observed to expected ratio (CY 2018 O/E ratio = 0.92 and CY 2019 O/E ratio = 0.73).

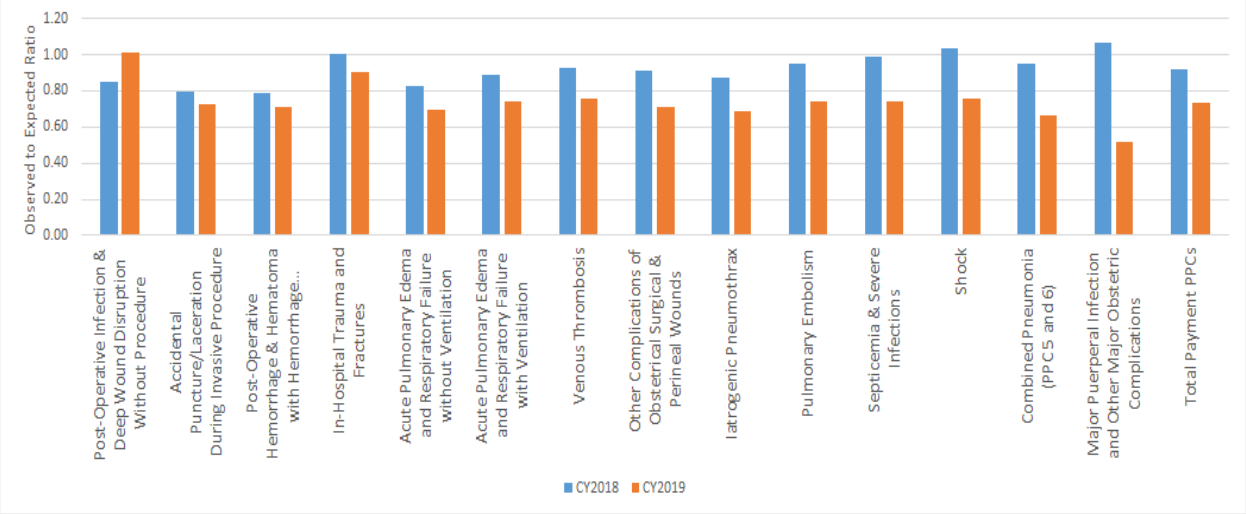
Figure 2. Payment Program PPCs Observed to Expected Ratios CY 2016 to CY 2019



In terms of specific improvements among the 14 payment PPCs, Figure 3 shows the O/E ratios for CY 2018 and CY 2019, sorted from greatest percent increase (on the left) to greatest decrease (on the right). The one PPC that experienced a worse (increased) O/E was PPC 37 - Post-Operative Infection and Deep Wound Disruption without Procedure. The three PPCs with the greatest decreases include PPC 60 - Major Puerperal Infection and Other Major Obstetric Complications, PPC 9 - Shock, and the combined Pneumonia PPC.

[5] Staff notes that, consistent with federal policies during the COVID Public Health Emergency, PPC data from January-June 2020 will not be used.

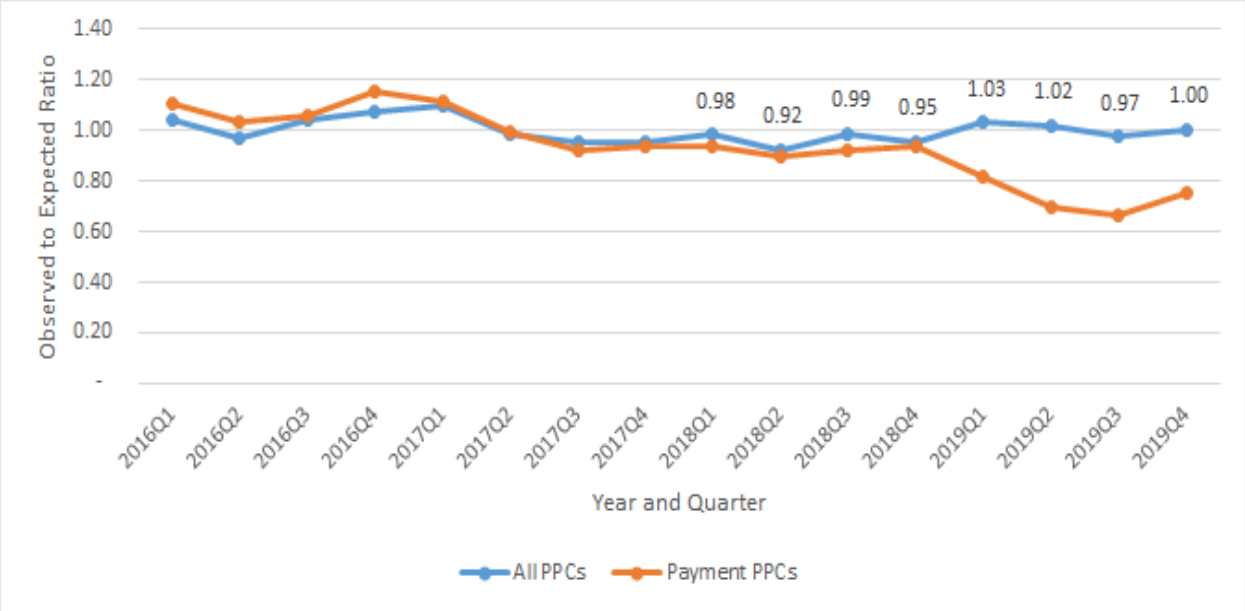
Figure 3. Payment Program PPC Observed to Expected Ratios CY 2018 and CY 2019



Monitored Complications

In addition to focusing on a narrowed list of PPCs for payment, the RY 2021 MHAC Policy included a recommendation to monitor the remaining PPCs. Staff fulfills this recommendation by monitoring all PPCs that are still considered clinically valid by 3M, and distinguishing between “Monitoring” and “Payment” PPCs, as in the analysis below. The overall PPC trend across all 54 PPCs shows that there has been a slight increase in the overall statewide O/E ratio from 0.96 in CY 2018 to 1.01 in CY 2019; the slight worsening in performance is driven primarily by increases in PPCs under monitoring status, and not increases in the payment program PPCs, as illustrated in Figure 4. As discussed in the RY 2022 policy, staff had reached out to hospitals with increases in monitoring PPCs and had been given several reasons for the increase unrelated to declining quality. Furthermore, staff had planned to analyze CY 2019 and 2020 data through June to determine whether any monitored PPCs needed to be placed back into the payment program. Due to the lack of valid and reliable data during the COVID-19 PHE, staff is not recommending any PPCs be moved back into the payment program for RY 2023, but will maintain the recommendation to monitor and possibly move PPCs back into the payment program in the future. Appendix III provides the statewide changes in observed, expected, and the O/E ratio for the monitoring PPCs sorted by the observed PPCs that accounted for the largest proportion of the increase from 2018 to 2019.

Figure 4. PPC O/E Ratio Trends CY 2016 Through CY 2019



COVID-19 Program Adjustments

Staff notes that, on September 2, 2020, CMS published an Interim Final Rule (IFR) in response to the COVID-19 PHE. In this IFR, they announced that:

- CMS will not use CY Q1 or CY Q2 of 2020 quality data even if submitted by hospitals.
- CMS is still reserving the right to suspend application of revenue adjustments for FFY 2022 for all hospital pay for performance programs at a future date in 2021; changes will be communicated through memos ahead of IPPS rules.

It is not known at this time if Maryland has flexibility in suspending our programs, and furthermore, Maryland's decision must be made prior to CMS making their decision due to the prospective nature of our pay-for-performance programs. However, CMMI has strongly suggested that the State must have quality program adjustments, and has further suggested that the State pursue alternative strategies, such as reusing portions of CY 2019 (as is being done for the Skilled Nursing Facility VBP program) to create a 12-month performance period, should that be necessary for data reliability and validity.

In context of the CMS announcement and CMMI comments, staff has evaluated the data issues and options for the RY 2022 MHAC program in Maryland, as illustrated in Figure 5 below.

Figure 5. RY 2022 COVID-Related Data Concerns and Options

COVID Data Concerns	Options
Only 6 months of data for CY 2020: 1. Is 6-months data reliable? 2. What about seasonality?	• Use 6-months data, adjust base as needed for seasonality concerns • Merge 2019 and 2020 data together to create a 12 month performance period • Use 2019 data or revenue adjustments
Clinical concerns over inclusion of COVID patients (e.g., assignment of respiratory failure as an in-hospital complication)	• Remove COVID patients from CY 2020 PPC evaluation
Case-mix adjustment, performance standard and revenue adjustment scale concerns: 1. Inclusion of COVID patients when not in normative values 2. Impacts on other DRG/SOI of COVID PHE	• Remove COVID patients from CY 2020 PPC evaluation • Develop concurrent norms and performance standards for comparison and possible use • Use 2019 data or revenue adjustments • Modify revenue adjustment scale to recognize COVID related concerns

At this stage, staff believes the most appropriate approach for the MHAC program is to exclude the COVID-19 patients[6] if any CY 2020 data is used. Under v37.1 of the PPC grouper, some respiratory PPCs such as respiratory failure, or other COVID sequelae such as septicemia, may be assigned to COVID-19 positive patients. Over the coming months, staff will work to assess any case-mix adjustment and performance standard issues due to the absence of COVID-19 patients in the base period and normative values, and to finalize the performance period. Staff will provide updates to the Commission in February, at the earliest, on the final decisions for any adjustments to all RY 2022 quality policies.

For RY 2023, the program will use v38 of the PPC grouper, which is updated with additional clinical exclusions for COVID-19 positive patients. For example, none of the respiratory failure or the septicemia PPC will be assigned to COVID-positive patients under this updated version. Staff will need to consider any additional modifications to address case-mix adjustment and performance standard concerns that may arise from inclusion of COVID-19 positive patients in the performance period, especially since COVID-19 cases were not part of the statewide normative values. Furthermore, based on stakeholder comments, analyses should be done on case-mix adjustment and performance standards concerns for non-COVID patients. Last, as discussed below, staff will need to determine the extended performance period for small hospitals.

[6] COVID-19 cases are defined as those coded with the ICD10 code U07.1

Small Hospital Methodology

Hospital-specific PPC inclusion requirements were maintained in the RY 2022 policy, i.e., all hospitals are required to have at least 20 at-risk discharges and 2 expected PPCs in order for a particular PPC to be included in the payment program. Because of the volatility in performance scores for smaller hospitals, the Commission also approved the following policy updates in RY 2022:

Establish small hospital criteria for assessing performance under the MHAC policy based on the number of at-risk discharges and expected PPCs (i.e., small hospitals are those with less than 20,000 at-risk discharges and/or 20 expected PPCs across all payment program PPCs) as opposed to the number of PPC measure types, and for hospitals that meet small hospital criteria, increase reliability of score by using two years of performance data to assess hospital performance (i.e., for RY 2022 use CY 2019 and 2020).

For RY 2023, staff proposes to maintain the small hospital criteria and expected to utilize CY 2020 and CY2021 for the assessment of small hospitals. However, staff will need to reconsider this approach due to the COVID related suspension of data use for January to June of 2020. This same concern arises for calculating RY 2022 revenue adjustment. Thus, in the recommendations, staff are proposing that for small hospitals more than one year of data be used, and that the performance period will be CY 2021 plus yet to be determined performance period for RY 2022. For example, if the Commission decides to use July to December 2020 for RY 2022, then small hospitals for RY 2023 will be assessed on data from July 2020 through December 2020 and January to December 2021.

Hospital Scores and Revenue Adjustments

Given the lack of CY 2020 data and few proposed changes to the RY 2023 MHAC methodology, prospective modeling of hospital scores and revenue adjustments are not being included in this final policy. However, for reference, staff are providing a summary of the RY 2021 hospital scores and revenue adjustments.

RY 2021 MHAC Scores

For the RY 2021 policy, the policy evolved to an attainment-only system with wider performance standards (i.e., 10th and 90th percentiles) to better differentiate hospital performance. Figure 6 provides descriptive statistics for the total hospital scores. For RY 2023, no changes are being proposed for how scores are calculated for each PPC or the total hospital score. The performance standards (i.e., normative values, benchmark, threshold) will be calculated using CY 2018 and CY 2019 (normally they would be updated through FY 2020 but that would include the suppressed January to June performance period) under version

38. The performance period will be CY 2021, except as discussed for small hospitals where a longer time period will be used.

Figure 6. RY 2021 Hospital Scores

RY 2021 Hospital Scores	CY 2019 Performance
Median	73%
Average	74%
Min	46%
Max	100%
25th Percentile	64%
75th Percentile	86%

Revenue Adjustment Scale Modeling

Staff proposes to maintain the RY 2021 and RY 2022 preset scale for RY 2023. This scale ranges from 0 to 100 percent, with a hold harmless zone between 60 and 70 percent. Despite historical concerns regarding the lack of a continuous scale from some stakeholders, staff still believe that the hold harmless zone is reasonable given the lack of national benchmarks for establishing a cut-point. While staff have concerns that the cut point for rewards may need to be raised due to the high median score, staff are not proposing any changes to the revenue adjustment scale because of the COVID PHE but will reassess this in future years. Figure 7 provides the count of hospitals in the penalty, hold harmless, and reward zones in RY 2021, alongside the statewide net revenue adjustments. Appendix IV contains the by hospital scores and revenue adjustments. These scores and revenue adjustments do not include the RY 2022 change to use two years of data for small hospitals since this change will have a minimal impact on statewide adjustments. Statewide penalties totaled $3.3 million in RY2021, while Statewide rewards totaled $41.9 million.

Figure 7: RY 2021 Revenue Adjustments

RY 2021 Statewide Revenue Adjustments	$	%
Net	$38,638,052	0.38%
Penalties	-$3,257,770	-0.03%
Rewards	$41,895,822	0.41%
# Hospitals Penalized	10	
# Hospitals Revenue Neutral	8	
# Hospitals Rewarded	27	

Additional Future Considerations

For future years it will be important to continue to seek national comparison data to evaluate relative Maryland PPC performance. The AHRQ HCUP data, containing all-payer claims data from ~40 states, may provide such an opportunity, however, staff notes that the data lag is two years. Staff also intends to include the newly available all-payer Patient Safety Indicator (PSI) composite, the PSI-90 measure, in the RY 2023 QBR program. This PSI measure includes some complications that are similar to payment program PPCs in the MHAC program, and allows Maryland to compare its performance to that of the nation (e.g., respiratory failure). The PSI-90 composite also includes some safety indicators similar to monitoring-only PPCs, such as pressure ulcers, enabling Maryland to compare its performance to that of the nation on non-payment hospital complications.

Additionally, staff will monitor other safety measures in use or under consideration nationally for reporting or payment; these measures will be considered for possible inclusion in the MHAC program for FY 2024 or beyond. Staff further believes that the upcoming work group to modernize the QBR program in 2021 will also provide an opportunity to reevaluate complication measures and the respective roles of the QBR safety domain and MHAC program.

Finally, staff notes that patient race and ethnicity, social determinants of health, socioeconomic status, and neighborhood factors may be relevant to consider, as hospitals and the State of Maryland work to address disparities in health outcomes. Staff will plan to analyze the complication measures data to understand and target disparities in future years.

Stakeholder Feedback and Staff Responses

Comment letters on the draft MHAC recommendations were submitted by the Maryland Hospital Association (MHA), the Johns Hopkins Health System (JHHS), and University of Maryland Medical System (UMMS). All three commenters generally support the RY 2023 MHAC policy and continued use of the revised MHAC methodology.

However, some targeted concerns were raised and suggestions provided for modifying specific aspects of the draft recommendations. These comments and suggestions are summarized below along with staff's responses.

Revenue Adjustment Scale Cut Points

Both the UMMS and the MHA letter caution against changing the revenue adjustment scale for RY 2023, and UMMS raises concerns about the RY 2022 revenue adjustment scale due to COVID and changes to

severity of illness levels under version 37 of the 3M PPC grouper. JHHS also raised concerns that the revenue adjustment scale for RY 2022 may need to be adjusted to account for actual statewide data from July through December 2020 that may yield atypical performance assessments.

Staff Response: Staff are supportive of not raising the cut point for rewards for the RY 2023 MHAC policy due to COVID concerns. In terms of the concerns raised by UMMS regarding the differences between v36 and v37 of the PPC grouper, staff notes that the final RY 2022 MHAC policy did model scores and revenue adjustments using v37 of the grouper. As such, staff are not convinced that the SOI changes due to the grouper version need to be addressed. However, as the RY 2022 policy is to be updated due to COVID-19 PHE, staff recognize that the revenue adjustment scale may need to be modified.

COVID-19 PHE Concerns

UMMS and JHHS both raise concerns regarding COVID-19 for RY 2022 and RY 2023. Specifically, UMMS raises the concerns that specific PPCs (e.g., sepsis) appear to be increasing in non-COVID patients and that this trend is being seen nationally with several studies positing that resource diversion may impact expected outcomes. JHHS meanwhile requests that COVID-19 positive patients be excluded from the RY 2023 policy pending hospitals being able to assess the grouper changes.

Staff Response: Staff concur that there are several COVID-19 related concerns that will need to be evaluated for RY 2022 and RY 2023, and have tried to outline these concerns in this policy based on this and other input. At this time, staff still support the inclusion of COVID-19 patients in the RY 2023 policy due to the clinical changes 3M has made to the grouper. These changes remove COVID-19 positive patients from eight out of fourteen of the PPCs, and staff believe that hospitals should be accountable for the remaining PPCs occurring in COVID-19 positive patients (e.g., in-hospital trauma or fracture or accidental puncture/laceration during invasive procedure). However, as with RY 2022, retrospective changes due to COVID-19 will need to be evaluated at a later date and if at that time it is deemed that the clinical changes to the v38 of the PPC grouper were inadequate, the Commission can remove COVID-19 patients at that time.

Financial Impact of Observed PPCs

JHHS raises concerns that where the at-risk volume is small that the assignment of a single PPC can have an excessive financial impact. They specifically cite that the cost of one PPC can be over $1 million and recommend that we review the actual cost per PPC by facility. In addition, they raise the concern that the number of PPCs were reduced as part of the MHAC Redesign but that revenue at-risk has remained the same.

Staff Response: Staff have modeled RY 2021 data for JHHS adding and subtracting a single PPC individually for each measure. For the majority of the PPCs (11 out of 14), there was no change in the MHAC score with a one PPC increase or decrease. However for three low volume PPCs, a one PPC increase did lower the total MHAC score by 1 percentage point, which in the case of Hopkins equals around a $1 million dollar change in rewards in the revenue adjustment scale (if in the penalty zone, the revenue change would be less given the scale is not symmetrical and there are more gradations in scoring for poor performance.

It is important to note though this outcome of 1 fewer PPC at JHHS equaling an additional $1 million in rewards is more a function of JHHS' budgetary scale relative to the rest of the State. If a hospital with an average revenue base in the state (approximately $225 million) experienced a change of 1 PPC that results in a 1 percent score change in its performance assessment, its rewards would be reduced by approximately $150 thousand instead of $1 million, and the order of magnitude would be significantly less if the hospital was eligible for a penalty because of the asymmetry of the scale, as aforementioned.

Given rewards and penalties are expressed as a percent of inpatient revenue, it is not surprising the JHHS has much higher financial adjustments in terms of actual dollars. In fact, in the first year of the redesigned MHAC program, JHHS received just over $2 million in rewards, whereas a hospital with the same performance but an average revenue base of $225 million would only have received $300 thousand in rewards.

Finally, staff notes that there is limited latitude in reducing the revenue-at-risk in the MHAC program. All of the quality programs combined and their associated revenue-at-risk are needed to ensure the State meets its CMS aggregate at-risk requirements. Moreover, the allotment of revenue-at-risk is not a function of how many measures are assessed, e.g. readmissions, which constitutes one third of the required revenue-at-risk, is only one measure and MHAC, which similarly constitutes one third of the required revenue-at-risk, has 14 measures. Staff do note though in concert with the QBR redesign, the Commission will reevaluate revenue at-risk across all programs and could consider taking this concern regarding the reduced number of PPCs and the associated revenue-at-risk into account However, staff feel the more appropriate approach would be to use the allotment of revenue-at-risk to reflect Commissioner priorities, e.g., potentially increasing the weight of the QBR program and concurrently decreasing the weight of another quality program given the importance of improving in many of metrics that the State has historically fared poorly in (HCAHPS, NHSN).

Concerns over 3M PPC Logic and PPC Appeals

Consistent with their input over the last two year, JHHS raises concerns with the PPC logic and suggests that an appeals process be established for the MHAC program where HSCRC convenes clinicians to review individual PPC cases in dispute.

Staff Response: Staff continues to not support a process for individual PPC cases to be disputed by clinicians. Staff notes the MHAC program is rate-based (i.e., observed PPCs to expected PPCs) and acknowledges that not all PPCs are completely preventable. Staff further notes that we undertake with MHA, hospital clinicians and 3M an annual process to review the PPC clinical assignment and exclusion logic, which results in annual changes to the PPC clinical logic. Therefore, staff continues to assert that the current process for clinical vetting with the industry and 3M is adequate. Furthermore, staff notes that CMS does not have any clinical appeals processes for individual complications for the measures in their quality programs. Finally, staff notes again that we accept hospital feedback and input throughout the year regarding specific issues related to coding assignment and exclusion logic and work with 3M to resolve the issues as they occur.

Underestimated Expected Values

JHHS' comment letter continues to raise concerns on the mathematical methodology for calculating expected PPC counts. While not specifically stated in this letter, JHHS has stated previously that it believes that the current methodology of indirect standardization to calculate statewide normative values results in a hospital's expected values being underestimated. In previous letters, JHHS has specifically stated that they support implementation of a Bayesian adjustment that adjusts for or smooths small volume events, making them more statistically stable. UMMS also raised concerns about underestimated expected values, but this was around the conversion from Version 36 to Version 37 of the PPC grouper and not the mathematical approach of indirect standardization. The MHA letter did not specifically address this issue.

Staff Response: As stated in previous years, staff again notes that the zero norm issue has been minimized by narrowing down the list to the fourteen clinically significant PPCs, increasing the statewide at risk number from 2 to 31 for each diagnosis and severity of illness level, and using a two year period to establish the normative values. Staff would also note that in the RY 2021 policy, staff presented various analyses that supported the continued use of the indirect standardization methodology. Furthermore, other stakeholders have previously expressed support of this methodology because of its simplicity and transparency. Thus, for the RY 2023 policy, staff does not recommend any changes; however, staff will continue to monitor the small cell size issue in the MHAC program.

Recommendations

The MHAC policy was redesigned in Rate Year (RY) 2021 to modernize the program for the new Total Cost of Care Model. This RY 2023 final recommendation, in general, maintains the measures and methodology that were developed and approved for RY 2022.[7]

These are the final recommendations for the RY 2023 Hospital-Acquired Conditions (MHAC) policy:

1. Continue to use 3M Potentially Preventable Complications (PPCs) to assess hospital acquired complications.
    a. Maintain a focused list of PPCs in the payment program that are clinically recommended and that generally have higher statewide rates and variation across hospitals.
    b. Monitor all PPCs and provide reports for hospitals and other stakeholders.
        i. Evaluate PPCs in "Monitoring" status that worsen and consider inclusion back into the MHAC program for RY 2024 or future policies.
2. Use more than one year of performance data for small hospitals (i.e., less than 20,000 at-risk discharges and/or 20 expected PPCs). The performance period for small hospitals will be CY 2021 plus the to be determined performance period for RY 2022 (i.e., January-June 2020 data will not be used).
3. Continue to assess hospital performance on attainment only.
4. Continue to weigh the PPCs in the payment program by 3M cost weights as a proxy for patient harm.
5. Maintain a prospective revenue adjustment scale with a maximum penalty at 2 percent and maximum reward at 2 percent and continuous linear scaling with a hold harmless zone between 60 and 70 percent.
6. Adjust the MHAC pay-for-performance program methodology as needed due to COVID-19 Public Health Emergency and report to Commissioners as follows:
    a. For RY 2022 (CY 2020 performance period)
        i. Exclude COVID-19 positive cases from the program.
        ii. Exclude the data for January to June 2020 and evaluate the reliability and validity of the data for July-December 2020 to determine feasibility of its use and any

[7] See the RY 2022 policy for detailed discussion of the MHAC redesign, rationale for decisions, and approved recommendations

needed changes for the RY 2022 payment adjustments.

iii. Evaluate case-mix adjustment and performance standards concerns arising from use of a pre-COVID time period to determine normative values.

b. For RY 2023 (CY 2021 performance period)

i. Update PPC Grouper to v38 and include COVID-19 positive cases consistent with the clinical updates to the grouper.

ii. Retrospectively evaluate case-mix adjustment and performance standards concerns arising from inclusion of COVID-19 patients and the use of a pre-COVID time period to determine normative values.

Appendix I. Background on Federal Complication Programs

The Federal Government operates two hospital complications payment programs, the Deficit Reduction Act Hospital Acquired Condition program (DRA-HAC) and the HAC Reduction Program (HACRP), both of which are designed to penalize hospitals for post-admission complications.

Federal Deficit Reduction Act, the Hospital-Acquired Condition Present on Admission Program

Beginning in Federal Fiscal Year 2009 (FFY 2009), per the provisions of the Federal Deficit Reduction Act, the Hospital-Acquired Condition Present on Admission Program was implemented. Under the program, patients were no longer assigned to higher-paying Diagnosis Related Groups if certain conditions were acquired in the hospital and could have reasonably been prevented through the application of evidence-based guidelines.

Hospital-Acquired Condition Reduction Program

CMS expanded the use of hospital-acquired conditions in payment adjustments in FFY 2015 with a new program, entitled the Hospital-Acquired Condition Reduction Program, under the authority of the Affordable Care Act. That program focuses on a narrower list of complications and penalizes hospitals in the bottom quartile of performance. Of note, as detailed in Figure 1 below, all the measures in the Hospital-Acquired Condition Reduction Program are used in the CMS Value Based Purchasing program, and the National Healthcare Safety Network (NHSN) Healthcare-Associated Infection (HAI) measures are also used in the Maryland Quality Based Reimbursement (QBR) program.

Figure 1. CMS Hospital-Acquired Condition Reduction Program (HACRP) FFY 2020 Measures

Recalibrated Patient Safety Indicator (PSI) measure:^ ● PSI 03 – Pressure Ulcer Rate ● PSI 06 – Iatrogenic Pneumothorax Rate ● PSI 08 – In-Hospital Fall with Hip Fracture Rate ● PSI 09 – Perioperative Hemorrhage or Hematoma Rate ● PSI 10 – Postoperative Acute Kidney Injury Requiring Dialysis Rate ● PSI 11 – Postoperative Respiratory Failure Rate ● PSI 12 – Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate ● PSI 13 – Postoperative Sepsis Rate ● PSI 14 – Postoperative Wound Dehiscence Rate ● PSI 15 – Unrecognized Abdominopelvic Accidental Puncture/Laceration Rate
Central Line-Associated Bloodstream Infection (CLABSI)^*
Catheter-Associated Urinary Tract Infection (CAUTI)^*
Surgical Site Infection (SSI) – colon and hysterectomy^*
Methicillin-resistant Staphylococcus aureus (MRSA) Bacteremia^*
Clostridium Difficile Infection (CDI)^*

^Recalibrated PSI Composite Measures included in the CMS VBP Program beginning FFY 2023. * National Healthcare Safety Network (NHSN) Healthcare-Associated Infection (HAI) measures included in both the CMS VBP and Maryland QBR Programs.

For more information on the DRA HAC program POA Indicator, please refer to: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalAcqCond/index

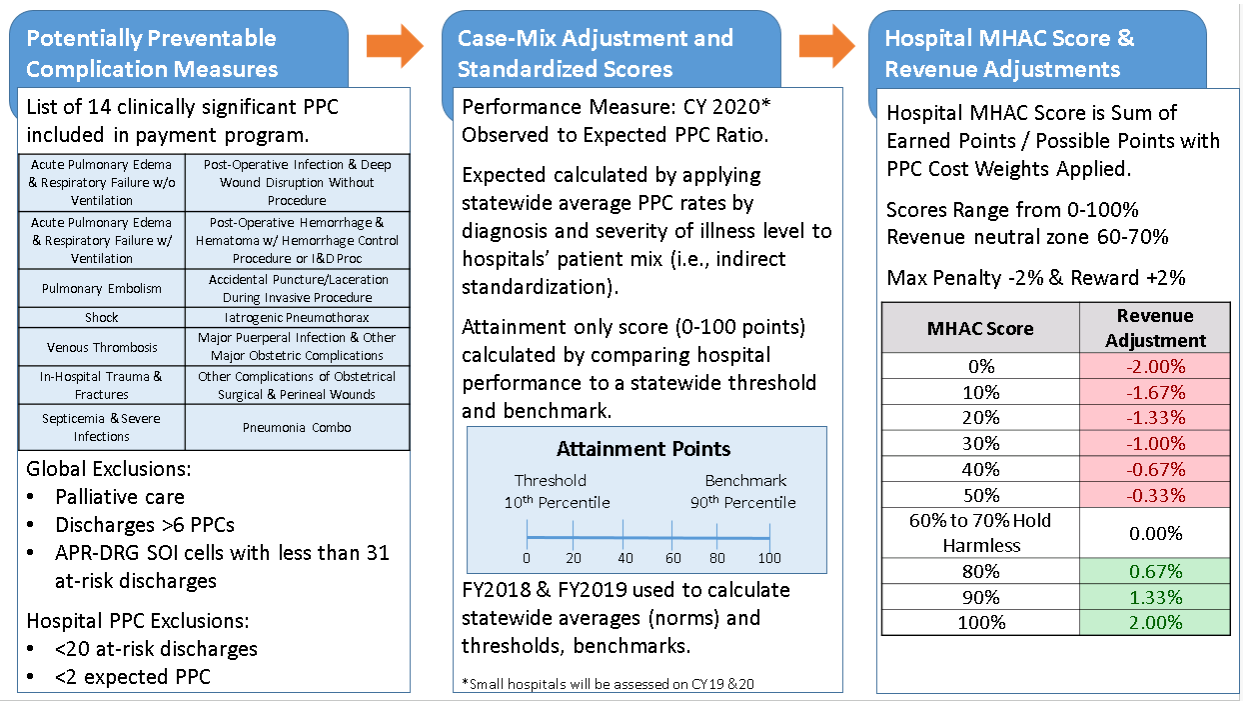
For more information on the DRA HAC program, please refer to: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalAcqCond/Downloads/FAQ-DRA-HAC-PSI.pdf

For more information on the HAC Reduction program, please refer to: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/HAC-Reduction-Program

Appendix II: RY 2022 MHAC Program Methodology

Figure 1 below provides a summary overview of the RY 2022 MHAC methodology.

Figure 1. Overview of RY 2022 MHAC Methodology



Performance Metric

The methodology for the MHAC program measures hospital performance using the Observed (O) /Expected (E) ratio for each PPC. Expected number of PPCs are calculated using historical data on statewide PPC rates by All Patient Refined Diagnosis Related Group and Severity of Illness Level (APR-DRG SOI). See below for details on how expected number of PPCs are calculated for each hospital.

Observed and Expected PPC Values

The MHAC scores are calculated using the ratio of $Observed : Expected$ PPC values.

Given a hospital's unique mix of patients, as defined by APR-DRG category and Severity of Illness (SOI) level, the HSCRC calculates the hospital's expected PPC value, which is the number of PPCs the hospital would have experienced if its PPC rate were identical to that experienced by a normative set of hospitals.

The expected number of PPCs is calculated using a technique called indirect standardization. For illustrative purposes, assume that every hospital discharge is considered "at-risk" for a PPC, meaning that all discharges would meet the criteria for inclusion in the MHAC program. All discharges will either have no

PPCs, or will have one or more PPCs. In this example, each discharge either has at least one PPC, or does not have a PPC. The unadjusted PPC rate is the percent of discharges that have at least one PPC.

The rates of PPCs in the normative database are calculated for each diagnosis (APR-DRG) category and severity level by dividing the observed number of PPCs by the total number of admissions. The PPC norm for a single diagnosis and severity level is calculated as follows:

Let:

N = norm

P = Number of discharges with one or more PPCs

D = Number of "at-risk" discharges

i = A diagnosis category and severity level

$$N_i = \frac{P_i}{D_i}$$

In the example, each normative value is presented as PPCs per discharge to facilitate the calculations in the example. Most reports will display this number as a rate per one thousand discharges.

Once the normative expected values have been calculated, they can be applied to each hospital. In this example, the normative expected values are computed for one diagnosis category and its four severity levels.

Consider the following example in Figure 2 for an individual diagnosis category.

Figure 2. Expected Value Computation Example for one Diagnosis Category

A Severity of illness Level	B At-risk Discharges	C Observed Discharges with PPCs	D PPCs per discharge (unadjusted PPC Rate)	E Normative PPCs per discharge	F Expected # of PPCs	G Observed: Expected Ratio
			= (C / B)	(Calculated from Normative Population)	= (B x E)	= (C / E) rounded to 4 decimal places
1	200	10	.05	.07	14.0	0.7143
2	150	15	.10	.10	15.0	1.0000
3	100	10	.10	.15	15.0	0.6667
4	50	10	.20	.25	12.5	0.8000
Total	**500**	**45**	**.09**		**56.5**	**0.7965**

For the diagnosis category, the number of discharges with PPCs is 45, which is the sum of discharges with PPCs (column C). The overall rate of PPCs per discharge in column D, 0.09, is calculated by dividing the total number of discharges with PPCs (sum of column C) by the total number of discharges at risk for PPCs (sum of column B), i.e., 0.09 = 45/500. From the normative population, the proportion of discharges with PPCs for each SOI level for that diagnosis category is displayed in column E. The expected number of PPCs for each severity level shown in column F is calculated by multiplying the number of at-risk discharges (column B) by the normative PPCs per discharge rate (column E). The total number of PPCs expected for this diagnosis category is the expected number of PPCs for the severity levels.

In this example, the expected number of PPCs for the APR DRG category is 56.5, which is then compared to the observed number of discharges with PPCs (45). Thus, the hospital had 11.5 fewer observed discharges with PPCs than were expected for 500 at-risk discharges in this APR DRG category. This difference can be expressed as a percentage difference as well.

All APR-DRG categories and their SOI levels are included in the computation of the observed and expected rates, except when the APR-DRG SOI level has less than 30 at-risk discharges statewide.

PPC Exclusions

Consistent with prior MHAC policies, the number of at-risk discharges is determined prior to the calculation of the normative values (hospitals with <10 at-risk discharges are excluded for a particular PPC) and the normative values are then re-calculated after removing PPCs with <2 complication expected. The following exclusions will also be applied:

For each hospital, discharges will be removed if:

- Discharge is in an APR-DRG SOI cell has less than 31 statewide discharges.
- Discharge has a diagnosis of palliative care (this exclusion may be removed in the future once POA status is available for palliative care for the data used to determine performance standards); and
- Discharge has more than 6 PPCs (i.e., a catastrophic case, for which complications are probably not preventable).

For each hospital, PPCs will be removed if during FY 2018 and FY 2019:

- The number of cases at-risk is less than 20; and
- The expected number of PPCs is less than 2.

The PPCs for which a hospital will be assessed are determined using the FY 2018 and FY 2019 data and not reassessed during the performance period. This is done so that scores can be reliably calculated

during the performance period from a pre-determined set of PPCs. The MHAC summary workbooks provide the excluded PPCs for each hospital.

Combination PPCs

Based on clinical input and 3M recommendation, starting in RY 2021 two pneumonia (PPC 5 Pneumonia & Other Lung Infections & PPC 6 Aspiration Pneumonia) PPCs were combined into single pneumonia PPC and the 3M cost weight is a simple average of the two PPC cost weights.

Hospital Exclusions

For RY 2022, McCready and UM-Chestertown are removed because they do not have sufficient volume to have at least 20 at-risk and 2 expected for any payment program PPC.

Benchmarks and Thresholds

For each PPC, a threshold and benchmark value are calculated using the FY 2018 and FY 2019 data. In previous rate years when improvement as also assessed, the threshold was set at the statewide median of 1 and the benchmark was the O/E ratio for the top performing hospitals that accounted for 25% of discharges. For RY 2021 under an attainment only methodology, staff adapted the MHAC points system to allow for greater performance differentiation by moving the threshold to the value of the observed to expected ratio at the 10th percentile of hospital performance, moving the benchmark to the value of the observed to expected ratio at the 90th percentile of hospital performance, and assigning 0 to 100 points for each PPC between these two percentile values. Figure 3 provides the thresholds and benchmarks under this revised methodology based on FY 2018 and FY 2019 data.

Figure 3: RY 2022 Thresholds and Benchmarks for all 14 Payment Program PPCs

PPC Number	PPC Description	Threshold	Benchmark
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation	1.8882	0.3348
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation	1.4274	0.4933
7	Pulmonary Embolism	1.5660	0.3091
9	Shock	1.6965	0.3727
16	Venous Thrombosis	1.7715	0.1242
28	In-Hospital Trauma and Fractures	1.5749	0.4468
35	Septicemia & Severe Infections	1.5732	0.3891
37	Post-Operative Infection & Deep Wound Disruption Without Procedure	1.9911	0.4162
41	Post-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or I&D Proc	2.4933	0.4362
42	Accidental Puncture/Laceration During Invasive Procedure	2.1677	0.3735
49	Iatrogenic Pneumothrax	1.6971	0.3351
60	Major Puerperal Infection and Other Major Obstetric Complications	1.6266	0
61	Other Complications of Obstetrical Surgical & Perineal Wounds	1.8975	0
67	Combined Pneumonia (PPC 5 and 6)	1.6422	0.3986

Attainment Points (possible points 0-100)

If the PPC ratio for the performance period is greater than the threshold, the hospital scores zero points for that PPC for attainment.

If the PPC ratio for the performance period is less than or equal to the benchmark, the hospital scores a full 100 points for that PPC for attainment.

If the PPC ratio is between the threshold and benchmark, the hospital scores partial points for attainment. The formula to calculate the Attainment points is as follows:

- Attainment Points = [99 * ((Hospital's performance period score - Threshold)/ (Benchmark – Threshold))] + 0.5

Calculation of Hospital Overall MHAC Score

To calculate the final score for each hospital, the attainment points earned by the hospital and the potential points (i.e., 100) for each PPC are multiplied by the 3M cost weights. Hospital scores across PPCs are calculated by summing the total weighted points earned by a hospital, divided by the total possible weighted points (100 per PPC * 3M cost weight). Figure 5 provides a hypothetical example of the points based scoring approach with the 3M cost weights.

maryland
health services
cost review commission

Appendix III: Monitoring PPCs

Table provides the CY 2018 and CY 2019 statewide observed and expected PPCs, sorted by the PPC that have the largest contribution to the total observed increase in the monitoring PPCs. The top 10 PPCs contributing the observed increase are highlighted in red.

		Observed					Expected			O/E Ratio		
PPC #	PPC Description	2018	2019	Percent change	Observed Simple Difference	Percent Contribution	2018	2019	Percent change	2018	2019	Percent change
52	Inflammation & Other Complications of Devices, Implants or Grafts Except Vascular Infection	278	434	56.1%	156	12.64%	296.84	296.05	-0.3%	0.94	1.47	56.5%
14	Ventricular Fibrillation/Cardiac Arrest	605	723	19.5%	118	9.56%	631.43	643.58	1.9%	0.96	1.12	17.2%
40	Post-Operative Hemorrhage & Hematoma without Hemorrhage Control Procedure or I&D Proc	477	594	24.5%	117	9.48%	503.69	492.54	-2.2%	0.95	1.21	27.3%
50	Mechanical Complication of Device, Implant & Graft	207	319	54.1%	112	9.08%	217.02	215.83	-0.5%	0.95	1.48	55.0%
1	Stroke & Intracranial Hemorrhage	272	368	35.3%	96	7.78%	299.38	297.66	-0.6%	0.91	1.24	36.1%
59	Medical & Anesthesia Obstetric Complications	103	191	85.4%	88	7.13%	115.18	111.29	-3.4%	0.89	1.72	91.9%
8	Other Pulmonary Complications	138	215	55.8%	77	6.24%	162.04	159.30	-1.7%	0.85	1.35	58.5%
51	Gastrointestinal Ostomy Complications	76	149	96.1%	73	5.92%	81.73	84.98	4.0%	0.93	1.75	88.5%
64	Other In-Hospital Adverse Events	82	150	82.9%	68	5.51%	107.67	106.26	-1.3%	0.76	1.41	85.3%
11	Acute Myocardial Infarction	290	354	22.1%	64	5.19%	302.06	304.76	0.9%	0.96	1.16	21.0%

		Observed					Expected			O/E Ratio		
PPC #	PPC Description	2018	2019	Percent change	Observed Simple Difference	Percent Contribution	2018	2019	Percent change	2018	2019	Percent change
48	Other Complications of Medical Care	77	137	77.9%	60	4.86%	82.09	82.54	0.5%	0.94	1.66	76.9%
17	Major Gastrointestinal Complications without Transfusion or Significant Bleeding	101	149	47.5%	48	3.89%	95.34	95.26	-0.1%	1.06	1.56	47.7%
20	Other Gastrointestinal Complications without Transfusion or Significant Bleeding	264	311	17.8%	47	3.81%	255.10	253.03	-0.8%	1.03	1.23	18.8%
13	Other Cardiac Complications	53	99	86.8%	46	3.73%	66.05	66.81	1.2%	0.80	1.48	84.7%
15	Peripheral Vascular Complications Except Venous Thrombosis	71	117	64.8%	46	3.73%	78.53	77.80	-0.9%	0.90	1.50	66.3%
27	Post-Hemorrhagic & Other Acute Anemia with Transfusion	211	253	19.9%	42	3.40%	258.03	260.67	1.0%	0.82	0.97	18.7%
47	Encephalopathy	91	130	42.9%	39	3.16%	77.83	74.09	-4.8%	1.17	1.75	50.1%
33	Cellulitis	198	236	19.2%	38	3.08%	176.31	171.26	-2.9%	1.12	1.38	22.7%
23	GU Complications Except UTI	67	102	52.2%	35	2.84%	61.95	61.77	-0.3%	1.08	1.65	52.7%
31	Decubitus Ulcer	40	66	65.0%	26	2.11%	38.35	37.39	-2.5%	1.04	1.77	69.2%
2	Extreme CNS Complications	100	121	21.0%	21	1.70%	65.38	66.06	1.0%	1.53	1.83	19.8%
19	Major Liver Complications	75	94	25.3%	19	1.54%	76.09	77.29	1.6%	0.99	1.22	23.4%
34	Moderate Infections	49	68	38.8%	19	1.54%	39.03	39.76	1.9%	1.26	1.71	36.2%
29	Poisonings Except from Anesthesia	28	46	64.3%	18	1.46%	31.27	30.81	-1.5%	0.90	1.49	66.7%
18	Major Gastrointestinal Complications with Transfusion or Significant Bleeding	21	38	81.0%	17	1.38%	26.01	25.07	-3.6%	0.81	1.52	87.7%
10	Congestive Heart Failure	29	40	37.9%	11	0.89%	60.32	59.87	-0.8%	0.48	0.67	39.0%

		Observed					Expected			O/E Ratio		
PPC #	PPC Description	2018	2019	Percent change	Observed Simple Difference	Percent Contribution	2018	2019	Percent change	2018	2019	Percent change
53	Infection, Inflammation & Clotting Complications of Peripheral Vascular Catheters & Infusions	44	50	13.6%	6	0.49%	58.07	57.55	-0.9%	0.76	0.87	14.7%
25	Renal Failure with Dialysis	18	23	27.8%	5	0.41%	21.59	20.81	-3.6%	0.83	1.11	32.6%
38	Post-Operative Wound Infection & Deep Wound Disruption with Procedure	3	8	166.7%	5	0.41%	5.33	5.43	1.8%	0.56	1.47	161.9%
26	Diabetic Ketoacidosis & Coma	8	12	50.0%	4	0.32%	5.48	5.30	-3.3%	1.46	2.26	55.1%
54	Infections due to Central Venous Catheters	13	17	30.8%	4	0.32%	9.86	9.76	-1.0%	1.32	1.74	32.1%
44	Other Surgical Complication - Mod	23	24	4.3%	1	0.08%	27.54	27.36	-0.6%	0.84	0.88	5.0%
45	Post-procedure Foreign Bodies	9	10	11.1%	1	0.08%	11.91	11.78	-1.1%	0.76	0.85	12.4%
30	Poisonings due to Anesthesia	0	0		0	0.00%	0.00	0.00				
32	Transfusion Incompatibility Reaction	0	0		0	0.00%	0.51	0.47	-7.0%	0.00	0.00	
63	Post-Operative Respiratory Failure with Tracheostomy	1	1	0.0%	0	0.00%	0.85	0.78	-9.0%	1.17	1.29	9.9%
66	Catheter-Related Urinary Tract Infection	9	8	-11.1%	-1	-0.08%	13.01	13.42	3.2%	0.69	0.60	-13.8%
21	Clostridium Difficile Colitis	335	325	-3.0%	-10	-0.81%	365.66	362.01	-1.0%	0.92	0.90	-2.0%
39	Reopening Surgical Site	212	202	-4.7%	-10	-0.81%	206.26	201.70	-2.2%	1.03	1.00	-2.6%
65	Urinary Tract Infection without Catheter	1441	1169	-18.9%	-272	-22.04%	1276.74	1266.58	-0.8%	1.13	0.92	-18.2%
	Statewide Total	6119	7353	20.2%	1234	100.00%	6207.47	6174.6705	-0.5%	0.99	1.19	20.8%

Appendix IV: RY 2021 Hospital Revenue Adjustments

Hospital ID	Hospital Name	RY20 estimated Permanent Inpatient Revenue	RY 2021 MHAC score	% Adjustment	$ Adjustment
210001	MERITUS	$216,047,620	0.67	0.00%	$0
210002	UNIVERSITY OF MARYLAND	$1,233,326,321	0.82	0.80%	$9,866,611
210003	PRINCE GEORGE	$263,362,395	0.56	-0.13%	-$351,150
210004	HOLY CROSS	$364,173,616	0.87	1.13%	$4,127,301
210005	FREDERICK MEMORIAL	$234,941,977	0.52	-0.27%	-$626,512
210006	HARFORD	$54,600,073	0.72	0.13%	$72,800
210008	MERCY	$245,183,638	0.71	0.07%	$163,456
210009	JOHNS HOPKINS	$1,537,015,348	0.72	0.13%	$2,049,354
210010	DORCHESTER	$20,517,421	0.96	1.73%	$355,635
210011	ST. AGNES	$249,225,510	0.59	-0.03%	-$83,075
210012	SINAI	$443,754,886	0.73	0.20%	$887,510
210015	FRANKLIN SQUARE	$308,852,743	0.56	-0.13%	-$411,804
210016	WASHINGTON ADVENTIST	$179,748,715	0.82	0.80%	$1,437,990
210017	GARRETT COUNTY	$23,013,699	1.00	2.00%	$460,274
210018	MONTGOMERY GENERAL	$84,740,050	0.48	-0.40%	-$338,960
210019	PENINSULA REGIONAL	$259,801,805	0.88	1.20%	$3,117,622
210022	SUBURBAN	$217,601,944	0.74	0.27%	$580,272
210023	ANNE ARUNDEL	$319,692,560	0.78	0.53%	$1,705,027
210024	UNION MEMORIAL	$258,558,976	0.54	-0.20%	-$517,118
210027	WESTERN MARYLAND HEALTH SYSTEM	$175,599,914	0.64	0.00%	$0
210028	ST. MARY	$79,305,037	0.87	1.13%	$898,790
210029	HOPKINS BAYVIEW MED CTR	$387,945,804	0.73	0.20%	$775,892
210030	CHESTERTOWN	$12,714,284	0.51	-0.30%	-$38,143
210032	UNION HOSPITAL OF CECIL COUNT	$68,136,813	0.46	-0.47%	-$317,972
210033	CARROLL COUNTY	$148,800,274	0.81	0.73%	$1,091,202
210034	HARBOR	$122,188,828	0.52	-0.27%	-$325,837
210035	CHARLES REGIONAL	$81,088,630	0.65	0.00%	$0
210037	EASTON	$109,482,743	0.93	1.53%	$1,678,735
210038	UMMC MIDTOWN	$107,704,022	0.77	0.47%	$502,619
210039	CALVERT	$70,993,520	0.69	0.00%	$0
210040	NORTHWEST	$140,549,546	0.89	1.27%	$1,780,294
210043	BALTIMORE WASHINGTON MEDICAL CENTER	$266,416,072	0.79	0.60%	$1,598,496
210044	G.B.M.C.	$247,198,765	0.57	-0.10%	-$247,199
210048	HOWARD COUNTY	$186,112,399	0.69	0.00%	$0
210049	UPPER CHESAPEAKE HEALTH	$157,270,395	0.84	0.93%	$1,467,857
210051	DOCTORS COMMUNITY	$148,830,231	0.87	1.13%	$1,686,743
210056	GOOD SAMARITAN	$161,237,653	0.84	0.93%	$1,504,885
210057	SHADY GROVE	$284,505,304	0.64	0.00%	$0
210058	REHAB & ORTHO	$72,597,733	0.72	0.13%	$96,797
210060	FT. WASHINGTON	$21,696,655	0.96	1.73%	$376,075
210061	ATLANTIC GENERAL	$40,634,326	0.91	1.40%	$568,881
210062	SOUTHERN MARYLAND	$175,194,855	0.64	0.00%	$0
210063	UM ST. JOSEPH	$251,546,336	0.80	0.67%	$1,676,976
210064	LEVINDALE	$59,673,579	0.69	0.00%	$0
210065	HC-Germantown	$70,744,547	0.99	1.93%	$1,367,728
	State Total	**$10,162,327,560**		**State Total**	**$38,638,052**
				Penalty	**-$3,257,770**
				% Inpatient	**-0.03%**
				Reward	**$41,895,822**
				% Inpatient	**0.41%**

Maryland
Hospital Association

October 21, 2020

Dr. Alyson Schuster
Deputy Director, Quality Methodologies
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, Maryland 21215

Dear Dr. Schuster:

On behalf of the Maryland Hospital Association's 61 member hospitals and health systems, we appreciate the opportunity to comment on the Health Services Cost Review Commission's (HSCRC) *Draft Recommendations for the Maryland Hospital Acquired Conditions Program for Rate Year 2023.* We appreciate the collaborative process to shape the policy in the best interest of high-quality care for all Marylanders, especially in these extremely trying times.

We support the staff's recommendations, which remain largely unchanged from the existing policy.

We do want to caution against making changes to the rate year 2023 prospective revenue adjustment scale. In principle, we understand the intent of considering changes to the scale. However, we do not understand the impact of the ongoing COVID-19 Public Health Emergency on the mix of patients presenting to hospitals. The statewide mix of patients and their complication rates are a critical component of the Maryland Hospital Acquired Conditions program's risk adjustment. Now is not the time to change policies and raise hospital risk and uncertainty.

We look forward to continuing to work with the commission on this and future policies.

Sincerely,

Brian Sims, Director, Quality & Health Improvement

cc: Adam Kane, Esq. Chairman
Joseph Antos, Ph.D., Vice Chairman
Victoria W. Bayless
Stacia Cohen, RN, MBA
John M. Colmers
James N. Elliott, M.D.
Sam Malhotra
Katie Wunderlich, Executive Director

Renee Demski, MSW, MBA
Vice President, Quality

Johns Hopkins Health System
Armstrong Institute for Patient Safety and Quality

410-955-4313 (office)

October 19, 2020

Adam Kane
Chairman
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, Maryland 21215

Dear Chairman,

On behalf of the Johns Hopkins Health System (JHHS), we appreciate the opportunity to provide input on the Maryland Hospital Acquired Conditions (MHAC) Program. We thank HSCRC commissioners and staff for the collaborative approach that fosters ongoing engagement. The science of quality improvement highlights the importance of intrinsic versus extrinsic motivation as a critical component to drive results. Aligning incentives with the dedication of front-line staff to provide the highest quality and safest care will best achieve our mutual objectives.

JHHS generally supports the staff recommendations for the RY2023 MHAC Program with our concerns noted below. In addition, we have had the opportunity to hear concerns raised by UMMS about the RY2023 MHAC program and concur with their recommendations as well. JHHS will continue to participate and engage in the Performance Measurement Workgroup to provide our input and expertise.

While there are minimal changes proposed for RY2023, we would like to share our thoughts about improvement opportunities for the program.

The Impact of SARS-CoV-2 (COVID-19) on Potentially Preventable Complications (PPCs)

The healthcare environment and delivery of care has seen significant shifts as the COVID-19 pandemic has effected all aspects of the delivery model. This includes resource allocation, initial and ongoing assessment of patient condition and risk, family engagement, and clinical management. There is no evidence to indicate the pandemic's disruption will resolve before the end of 2021.

Nationally, there has been a documented increase in healthcare associated infections with several studies outlining the impact of resource diversion on expected outcomes. These infection prevention experts reference the fact the full impact of the COVID-19 pandemic on health systems and traditional health associated complications remains to be determined.

Recommendation: We recommend that HSCRC re-evaluate the scaling model with consideration of actual state-wide July through December 2020 data. We also recommend that COVID-19 positive cases are excluded from the RY2023 MHAC program until a time when hospitals have the opportunity to understand how the updated PPC Grouper (v38) will account for COVID-19 positive cases.

Renee Demski, MSW, MBA
Vice President, Quality

Johns Hopkins Health System
Armstrong Institute for Patient Safety and Quality

410-955-4313 (office)

Financial Impact of Observed PPCs

We continue to be concerned about PPCs where the at-risk volume is small and the assignment of a PPC has a significant impact on the observed over expected ratio and 3M Cost Weights. Our concern is that this will have a significant impact on the weighted points. The result is that the cost of one PPC can be excessive (over $1 million per PPC), which is significantly out of alignment with the cost of the actual complication. In addition, over time, there has been a reduction in the number of measured PPCs without a corresponding reduction in +/- 2 percent revenue adjustment.

Recommendation: Recommend review of the actual cost per observed PPC by facility and explore methods to prevent excessive financial penalty on a per observed PPC basis.

Complications Not Potentially Preventable

The PPC inclusion and exclusion criteria cannot anticipate every clinical profile and a PPC's clinical relevance is critical to clinician engagement. As one example, high dose magnesium is used during fetal therapy procedures to prevent miscarriage or contractions. However, the use of high dose magnesium can trigger a pulmonary edema in the mother. For instance, a mother whose child is undergoing fetal therapy, such as Spina bifida correction, can possibly suffer a pulmonary edema, which is not preventable. As another example, there are instances where patients self-inflict opioid or other substance abuse that trigger PPC-29, Poisonings Other Than Anesthesia, even when the hospital successfully revives and discharges the patient.

Recommendation: We continue to recommend the creation of a peer-review appeal process for consideration of exception cases prior to rate-year adjustment calculation. This will foster greater engagement of front-line clinical staff when a PPC is inappropriately assigned by an imperfect algorithm. Provider engagement is critical to the success of not only the MHAC program, but the Total Cost of Care Model as well.

Another recommendation is to create more specificity in the preventable definition of the PPCs so that a greater number of appropriate exclusions can be applied.

Methodology

In previous comment letters, we expressed our ongoing concern with features inherent in the mathematical methodology to determine normative rates and project expected values. These factors cause observed values to be over calculated and expected values to be underestimated. This can exaggerate the observed/ expected ratios used for comparative analysis and revenue adjustment. We believe that these factors have the most significant impact on the higher levels of care found in academic medical centers. These features affect the calculation of PPCs included in the payment program, as well as, the "monitored" PPCs. The year-to-year changes in various facets of the program methodology also complicate year-to-year performance comparisons and trending.

Renee Demski, MSW, MBA
Vice President, Quality

Johns Hopkins Health System
Armstrong Institute for Patient Safety and Quality

410-955-4313 (office)

Recommendation: We recommend modifications to the methodology that would address the mathematical issues that cause expected values to be underestimated. As an example, in CY2020, for JHHS, 1 of every 5 observed PPCs in the measurement program yielded no expected value.

In summary, we are very appreciative of the opportunity to collaborate in the continual improvement of the MHAC Program. JHHS remains fully committed to maximizing the potential of the program to guide the statewide elimination of potentially preventable harm.

We look forward to ongoing collaboration related to quality improvement.

Sincerely,

Renee Demski, MS, MBA
Vice President for Quality and Safety
Johns Hopkins Health System
Armstrong Institute for Patient Safety and Quality

Cc: Joseph, Ph.D., Vice Chairman
Victoria W. Bayless
Stacia Cohen, RN, MBA
John M. Colmers
James N. Elliott, MD
Sam Malhotra

UNIVERSITY of MARYLAND
MEDICAL SYSTEM

250 W. Pratt Street
24th Floor
Baltimore, Maryland 21201-6829
www.umms.org

CORPORATE OFFICE

October 21, 2020

Alyson Schuster, Ph.D.
Deputy Director, Quality Methodologies
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, Maryland 21215

Dear Dr. Schuster:

On behalf of the University of Maryland Medical System, we appreciate the opportunity to comment on the Health Services Cost Review Commission's (HSCRC's) *Draft Recommendations for the Maryland Hospital Associated Complication Program for Rate Year 2023.*

We strongly support the continuation of the program allowing our focus on reduction of potentially serious clinical complications and significant measures of patient safety. We continue to monitor all PPC events in our patient population, but with the ability to focus on specific complications we have been successful in engaging clinical expertise to lead system-wide clinical analysis and clinical service improvements, resulting in improved coordination of care and improved patient safety.

UMMS and JHHS continue to share analyses and practices to improve the quality of care to our patients. Both organizations are submitting individual comment letters, but have collaborated and support the recommendations each institution is bringing forward.

UMMS is recommending a re-evaluation of the prospective revenue adjustment scale, currently proposed as 0 to 100 with a 60 to 75 "hold harmless zone". The UMMS recommendation is to re-evaluate based on July through December 2020 statewide performance for the following 2 reasons detailed below:

1. The delivery of healthcare has changed across the nation due to SARS-CoV-2

2. Updates to the 3M APR-DRG grouper have changed the distribution of severity of illness (SOI)

The Impact of SARS-CoV-2 (COVID-19) on the Delivery of Care

While engagement in improving coordination of care and patient safety continues, the healthcare environment and delivery of care has seen significant shifts as the pandemic has effected all aspects of the delivery model from resource allocation, initial and ongoing assessment of patient condition and risk, family engagement, and clinical management. While we strongly support the continuation of the program, we ask you to reconsider the scaling model in your recommendations based on CY18 and CY19, a previous period recognized across the country as a very different healthcare environment. There is no evidence to indicate the disruption of the pandemic will not be with us through much of 2021.

Over the past few months, it has been our experience that not all focused PPCs are negatively impacted by the pandemic. Even when excluding patients diagnosed with COVID-19, the incidence of shock and sepsis has risen in our patient population and we continue to try to understand why. Nationally there has been a documented increase in healthcare associated infections with several studies outlining the impact of resource diversion on expected outcomes. These infection prevention experts reference the fact the full impact of the COVID-19 pandemic on health systems and traditional health associated complications remains to be determined.

It is not the intent of this letter to excuse the impact of this pandemic on increasing healthcare associated complications. It is to consider the reality there is a need to re-identify strategies for improvement in a new healthcare environment still not fully understood.

We ask the scaling model be re-evaluated with consideration of actual statewide July through December 2020 data.

SOI Distribution Changes Decrease Expected PPCs

UMMS evaluated the change in SOI distribution and its impact on expected PPCs using

- CY2019 final data across 12 UMMS facilities (73,227 distinct discharges)
- Rate Year 2022 PPC norms
- Compared SOI distribution on the same patient population using 3M V36 vs V37
- The 14 PPCs included in the Rate Year 2022 MHAC program

UMMS noted two effects of the V36 to V37 update. The first effect is individual RY2022 norms are higher than RY2021 norms. In each of the 12 UMMS facilities, when there was no change to patient SOI from the version change, the sum of the expected values increase across PPCs.

However, effect one is nullified by effect two. Effect two is V37 lowers the assigned SOI for many patients compared to V36. Out of the 73,227 distinct discharges in CY2019 across UMMS, 21.9% (16,018) decreased in SOI, 0.7% (490) increased in SOI, and 77.5% (56,719) either had no change in SOI or were not included in both versions. The 21.9% decrease in SOI at risk PPCs had significant impact on the sum of expected PPCs, as lower SOI values have lower expected values.

The overall impact for UMMS hospitals from the V36 to V37 update was a 1.5% decrease in observed PPCs (7), a 14.6% decrease in expected PPCs (113), which resulted in a 15.4% increase in Observed-to-Expected (O/E).

Therefore, MHAC performance deteriorated by the increases in O/E for the same patients by only changing the 3M version due to the shifts in SOI assignment. UMMS recommends considering this when evaluating the prospective revenue adjustment scale.

We ask the scaling model be re-evaluated with consideration of actual statewide July through December 2020 data.

We appreciate the commission's consideration of our feedback.

Sincerely,

Mohan Suntha, MD, MBA
President & Chief Executive Officer

cc: Adam Kane, Chairman
Joseph Antos, Ph.D., Vice Chairman
Victoria W. Bayless
John M. Colmers
James N. Elliott, M.D
Stacia Cohen
Sam Malhotra
Dianne Feeney, Assoc. Director, Quality Initiatives
Allan Pack, Dir., Population-Based Methodologies

References:

Am J Infect Control. 2020 Jul 2
doi: 10.1016/j.ajic.2020.06.209 [Epub ahead of print]
PMCID: PMC7329659
PMID: 32621857

Impact of SARS-CoV-2 on hospital acquired infection rates in the United States: Predictions and early results

Kathleen M. McMullen, MPH, CIC, FAPIC,[a,*] Barbara A. Smith, MPA, BSN, RN, CIC, FAPIC,[b] and Terri Rebmann, PhD, RN, CIC, FAPIC[c]

Author information • Copyright and License information Disclaimer

Infection Control & Hospital Epidemiology (2020), **41**, 946–947
doi:10.1017/ice.2020.141

Commentary

Impact of COVID-19 on traditional healthcare-associated infection prevention efforts

Michael P. Stevens MD, MPH[1], Michelle Doll MD, MPH[1], Rachel Pryor RN, MPH[1], Emily Godbout DO, MPH[1], Kaila Cooper RN, MSN, CIC[1] and Gonzalo Bearman MD, MPH[1]
[1]Hospital Infection Prevention Program, Virginia Commonwealth University Health System, Richmond, Virginia

maryland
health services
cost review commission

Draft Recommendations for Updating the Quality-Based Reimbursement (QBR) Program for RY 2023

November 12, 2020

This is the Draft Recommendation for the RY 2023 Quality Based Reimbursement Program. Comments are due by November 19, 2020. Please submit them to hscrc.quality@maryland.gov.

P: 410.764.2605 ● 4160 Patterson Avenue | Baltimore, MD 21215 ● hscrc.maryland.gov

Table of Contents

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 Infection
CMS	Centers for Medicare & 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 (Coincides with State Fiscal Year (SFY) July-Jun; signifies the timeframe in which the rewards and/or penalties would be assessed)
SIR	Standardized Infection Ratio
SSI	Surgical Site Infection
THA/TKA	Total Hip and Knee Arthroplasty Risk Standardized Complication Rate
VBP	Value-Based Purchasing

Policy Overview

Policy Objective	Policy Solution	Effect on Hospitals	Effect on Payers/ Consumers	Effect on Health Equity
The quality programs operated by the Health Services Cost Review Commission, including the Quality-Based Reimbursement (QBR) program, are intended to ensure that any incentives to constrain hospital expenditures under the Total Cost of Care Model do not result in declining quality of care. Thus, HSCRC's quality programs reward quality improvements and achievements that reinforce the incentives of the Total Cost of Care Model, while guarding against unintended consequences and penalizing poor performance.	The QBR program is one of several pay-for-performance quality initiatives that provide incentives for hospitals to improve and maintain high-quality patient care and value over time.	The QBR policy currently holds 2 percent of hospital revenue at-risk for Patient Experience of Care/Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey results, and in other measures in domains of Safety (Healthcare Associated Infections), and Clinical Care (inpatient morality, hip/knee arthroplasty complications).	This policy affects a hospital's overall GBR and so affects the rates paid by payers at that particular hospital. The HSCRC quality programs are all-payer in nature and so improve quality for all patients that receive care at the hospital.	The quality programs that assign hospitals credit for the better of attainment or improvement on the measures (QBR and RRIP) better allow the policies to target improvements in hospitals that serve patient populations impacted more by disparities in care. In the future, the QBR policy may provide direct hospital incentives for reducing disparities, similar to the approved readmission disparity gap improvement policy.

RECOMMENDATIONS

This document puts forth the RY 2023 Quality-Based Reimbursement (QBR) draft policy recommendations that include maintaining the RY 2022 quality domains, scoring approach, and pre-set revenue adjustment scale. This draft recommendation also proposes minimal changes to the program measures, as outlined below.

Recommendations for RY 2023 QBR Program:

1. Continue **Domain Weighting** as follows for determining hospitals' overall performance scores: Person and Community Engagement (PCE) - 50 percent, Safety (NHSN measures) - 35 percent, Clinical Care - 15 percent.
2. Implement the following **measure updates**:
    A. Add an exclusion for academic hospitals or for hospitals with lower case volumes and higher Case Mix Index (CMI) for the hip/knee complication measure.
    B. Add follow-up after acute exacerbations for chronic conditions measure to the PCE Domain.
    C. Add PSI-90 measure to the Safety domain
3. Maintain the **pre-set scale** (0-80 percent with cut-point at 41 percent), and continue to hold 2 percent of inpatient revenue at-risk (rewards and penalties) for the QBR program.
4. Convene a QBR Redesign Work Group in the first half of 2021 that targets the CMS concerns and implements identified strategic priorities for quality.
5. Adjust retrospectively the RY 2022 and RY 2023 QBR pay-for-performance program methodology as needed due to COVID-19 Public Health Emergency and report changes to Commissioners.

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 Total Cost of Care (TCOC) Model Agreement between Maryland and the Centers for Medicare & Medicaid Services (CMS), Maryland's QBR program has no stated performance requirements. 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.

Maryland has been working to update performance standards and targets in HSCRC's portfolio of quality and value-based payment programs with the onset of the Total Cost of Care (TCOC) Model Agreement with CMS. Per directives from HSCRC Commissioners[1] and upon approval of the TCOC Model, staff worked with stakeholders over the last two years to revise the Maryland Hospital Acquired Complications program, the Potentially Avoidable Utilization program[2], and the Readmissions Reduction Incentive Program for RY 2022 (Performance Period - CY 2020). It was the staff's intent to convene a subgroup to redesign the QBR program during CY 2020; however, HSCRC postponed convening the group due to the COVID-19 public health emergency (PHE) until next year. The QBR program will include minor updates this year, but will largely remain similar to prior iterations of the policy with the understanding that the program will be re-designed in CY 2021 for the RY 2024 policy.

Under the TCOC Model, the State must request exemptions from the CMS Hospital Acquired Conditions (HAC) program, Hospital Readmission Reduction program (HRRP), and Hospital Value-Based Purchasing (HVBP) 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. HSCRC submitted a report this year with its exemption request and received notification from CMS on September 29, 2020 that the exemptions were granted for Federal Fiscal Year 2021; the notification of exemption may be found in Appendix I.

Staff notes that, while the exemptions were granted, CMS raised concerns about Maryland's relatively poor performance in two of the VBP domains, specifically the HCAHPS measures in the Person and

[1] In the fall of 2017, HSCRC Commissioners and 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 reform of financial and quality methodologies, as well as other staff operations.

[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 itself incentivizes improved efficiency. PAU is currently defined as the costs of readmissions and a subset of admissions defined by the Agency for Healthcare Research and Quality Prevention Quality Indicators (PQIs).

Community Engagement Domain and the CDC NHSN Infection measures in the Safety Domain. Furthermore, as part of the exemption approval, CMS stipulated that a high-level work plan for the QBR Redesign needs to be submitted as part of the annual monitoring report (due December 31, 2020) and a QBR Redesign summary report is needed by end of June 2021.

Maintaining Maryland's exemption from the national Value-based Purchasing program is important because it enables the state (via the HSCRC) to generate autonomous, quality-based measurement and payment initiatives that set consistent all-payer quality incentives.[3] Furthermore, this exemption affords Maryland the flexibility to select performance measures and targets in areas where statewide improvement is needed, and allows Maryland to develop programs with greater potential for system transformation. For example, unlike the national VBP program, QBR does not relatively rank hospitals, but instead provides all hospitals the opportunity to earn rewards, which are determined using a prospective revenue adjustment scale.

The QBR program measures and domains are similar to those of the VBP program, but there are a few differences. Most notably, HSCRC has put higher weight on the Person and Community Engagement and Safety domains to encourage improvement on measures of patient experience, and QBR does not include an Efficiency domain. Staff recommends retaining this approach for the RY 2023 policy, while also targeting Maryland's underperforming areas with the QBR Redesign Subgroup.

Generally the HSCRC tries to align the QBR program to measures of national import, and where feasible, the Commission incorporates more comprehensive measurement relative to the VBP program,[4] most notably an all-cause, inpatient Maryland mortality measure versus VBP's condition-specific 30-day mortality measures. During the coming year, staff will work with contractor support to continue developing an all-cause, all-condition 30-day mortality measure applicable to all payers, expanding further the QBR mortality measure's potential to incentivize better outcomes outside the hospital walls, which is a central tenet of the TCOC Model.

This report provides draft recommendations for updates to Maryland's QBR program for Rate Year (RY) 2023, with minimal updates from RY 2022. The QBR program has potential scaled penalties or rewards of up to 2 percent of inpatient revenue. Hospital 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 the program uses national standards for the hip and knee replacement (THA/TKA) complications measure.

[3] For more information on the VBP Exemption (granted annually by CMMI), please see Appendix I.
[4] For more information on the VBP program, see https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/HVBP/Hospital-Value-Based-Purchasing.html, last accessed 10/28/19.

BACKGROUND

The Affordable Care Act established the hospital Medicare Value-Based Purchasing (VBP) program,[5] which requires CMS to reward hospitals with incentive payments for the quality of care provided to Medicare beneficiaries. Figure 1 below compares the RY 2022 QBR measures and domain weights to those used in the CMS VBP program.

Figure 1. RY 2022 QBR Measures and Domain Weights Compared with CMS VBP Program

	Maryland QBR Domain Weights and Measures	CMS VBP Domain Weights and Measures
Clinical Care	15 percent -2 measures: all cause inpatient Mortality, THA/TKA complications measure ;	25 percent -5 measures: 4 condition-specific Mortality, THA/TKA complications measure
Person and Community Engagement	50 percent-8 HCAHPS measures	25 percent- 8 HCAHPS measures
Safety	35 percent -5 measures: 6 CDC NHSN HAI measure categories (2 are combined)	25 percent 5 measures: CDC NHSN HAI measures
Efficiency	N/A	25 percent-Medicare Spending Per Beneficiary measure

With the selected measures from above, the QBR program assesses hospital performance based on the national average (threshold) and the top performance (benchmark) values for all measures, except the HSCRC calculated in-hospital mortality rate (which uses state data to calculate performance standards). Thus, a score of 0 percent means that performance on all measures is below the national average or not improved, while a score of 100 percent means performance on all measures is at or better than the top 5 percent best performing rates. This scoring methodology is the same as the national VBP program. However, unlike the VBP program that relatively ranks all hospitals, the QBR program uses a preset scale to determine each hospital's revenue adjustment, offering hospitals far more predictability.

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

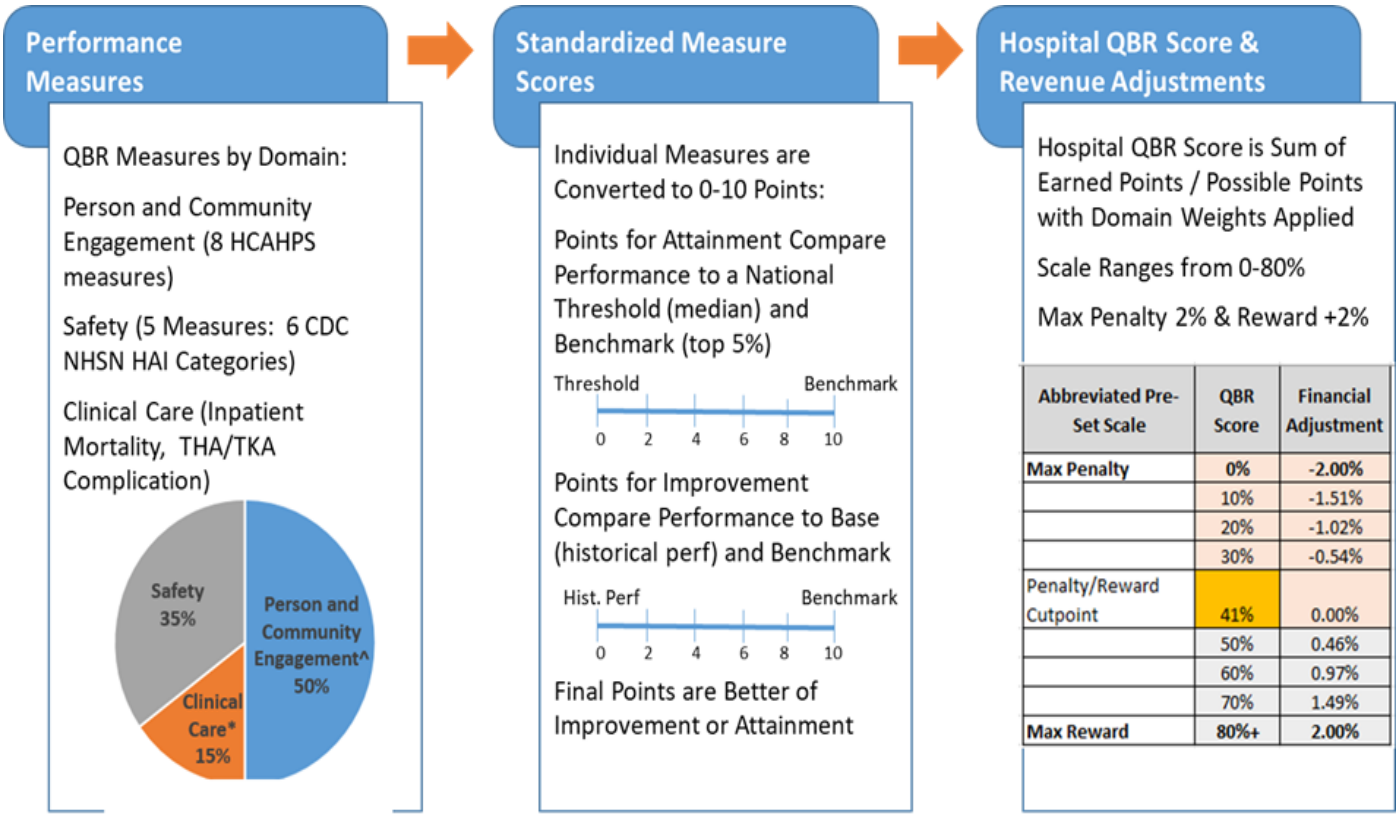
In the RY 2019 QBR recommendation, the Commission approved using a preset scale based on national performance to ensure that QBR revenue adjustments are linked to Maryland hospital performance relative to the nation. Prior to RY 2019, Maryland hospitals were evaluated by national thresholds and benchmarks, but their scores were then scaled in accordance with Maryland performance, resulting in Maryland hospitals receiving financial rewards despite falling behind the nation in performance. Consequently, the scale is now 0 to 80 percent regardless of the score of the highest performing hospital in the state, and the cut-point at which a hospital earns rewards in RYs 2021 and 2022 is 41 percent. This reward and penalty cut-point was based on an analysis of FFY16-FFY18 national Value-Based Purchasing scores, which indicated the average national score using Maryland domain weights (i.e., without the Efficiency domain) was around 41 percent (range 39.9 to 42.7). While staff originally proposed a 45 percent cut-point for RY 2021 to further ensure Maryland hospitals that received rewards were performing better than the nation, the Commission amended the recommendation to have the cut-point be at the national average of 41.

As a recap, 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 percent) 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 percent.

The methodology is illustrated in Figure 2 below.

Figure 2. Process for Calculating RY 2022 QBR Scores



Abbreviated Pre-Set Scale	QBR Score	Financial Adjustment
Max Penalty	0%	-2.00%
	10%	-1.51%
	20%	-1.02%
	30%	-0.54%
Penalty/Reward Cutpoint	41%	0.00%
	50%	0.46%
	60%	0.97%
	70%	1.49%
Max Reward	80%+	2.00%

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

ASSESSMENT

The purpose of this section is to present an assessment, using the most current data available, of Maryland's performance on measures used in QBR as well as other measures where national comparisons are available. The assessment together with the deliberations of the Performance Measurement Workgroup (PMWG) serve as the basis for the draft recommendations for the RY 2023 QBR program. In addition, staff has modeled the QBR revenue adjustments with the recommended changes.

Maryland Performance by QBR Domain

Person and Community Engagement

During RY 2021, the **Person and Community Engagement** domain measured performance using the HCAHPS patient survey, as well as one emergency department (ED) wait time measure for admitted patients (ED-2b Decision to admit time to actual admission time) that was part of the CMS Inpatient

Quality Reporting (IQR) program; the addition of the emergency department wait time measures was an example of Maryland's quality programs differing from the nation to target an area of concern as Maryland has had extended ED wait times compared to the nation over a number of years. However, as of CY 2020, the CMS IQR program no longer requires submission of the measure, so the measure was removed in the RY 2022 policy. Staff does note that CMS has made optional an electronic clinical quality measure (eCQM) version of the ED-2b measure for hospitals to submit. Some stakeholders, including members of the Commission, have voiced support for including an ED wait time measure for patients not admitted to the hospital (OP 18-b- time of arrival to departure from the ED); in the policy deliberations for RYs 2021 and 2022, adoption of this measure was not approved as concerns were raised about increased wait times due to hospitals' efforts to treat and provide care management services as appropriate in the ED rather than admit this subset of patients. Options for ED wait time measures will again be considered for future adoption through the work of the QBR redesign subgroup staff will convene in CY 2021.

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)

Figures 3 and 4 below provide graphic and numeric representations respectively of the HCAHPS measure results for the RY 2021 base and performance periods for Maryland compared to the Nation, revealing that Maryland continues to lag behind the Nation, but both the nation and Maryland are improving at similar rates overall.

For each HCAHPS measure, the changes over time from the base to the performance period for Maryland and the Nation, and the gaps in performance between Maryland and the Nation, are provided below.

- **Communication with nurses-** Maryland remained the same and the nation improved by 1 percent, and the gap widened by -1 percent, with Maryland -5 percent below (worse than) the Nation.
- **Communication with doctors-** Maryland and nation remained the same, as did the gap, with Maryland at -4 percent below the Nation.
- **Responsiveness of hospital staff-** Maryland improved by 1 percent while the nation remained the same, and the gap narrowed (improved) for Maryland from -9 percent to -8 percent below the Nation.
- **Communication about medicine-** Maryland improved by 1 percent and the nation remained the same, and the gap decreased for Maryland from -6 percent to -5 percent below the Nation.
- **Cleanliness and quietness-** Maryland improved by 1.5 percent and the nation improved by 0.5 percent, and the gap decreased for Maryland from -6.5 percent to -5 percent below the Nation.
- **Discharge information-** Maryland and the nation remained the same, and the gap remained the same for Maryland at -1 percent below the Nation.
- **Post discharge care understood**- Maryland remained the same and the nation improved by 1 percent, and the gap widened by -1 percent with Maryland at -5 percent below the Nation.

- **Overall hospital rating-** Maryland declined by -1 percent and the nation remained the same, and the gap widened for Maryland by -1 percent to -7 percent below the Nation.

Figure 3. HCAHPS Results: Maryland Compared to the Nation, RY 2021

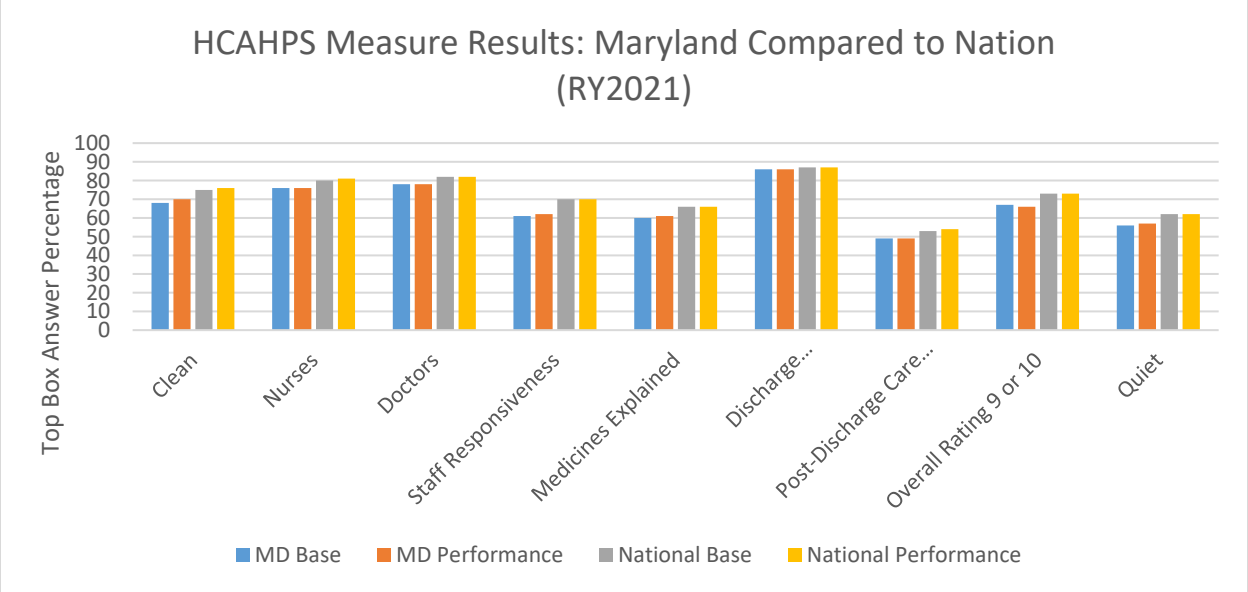


Figure 4. HCAHPS Numeric Results: Maryland Compared to the Nation, RY 2021[6]

	Clean/Quiet	Nurses	Doctors	Staff Responsiveness	Medicines Explained	Discharge Information Provided	Post-Discharge Care Strongly Understood	Overall Rating 9 or 10
MD Base	62	76	78	61	60	86	49	67
MD Performance	63.5	76	78	62	61	86	49	66
National Base	68.5	80	82	70	66	87	53	73
National Performance	69	81	82	70	66	87	54	73

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 III).

Stakeholders on the PMWG have previously raised concerns about HCAHPS performance. Payers have raised concern about the lack of improvement in the HCAHPS measures, and hospitals about the potential impact of the patient mix adjustment changes that the CMS VBP program updates between the base and performance periods at the federal level. Regarding the lack of improvement, alternative

[6] This Figure provides the percent of patients surveyed that rated the hospitals for each of the HCAHPS categories in Maryland and the nation a score of 9 or 10 on a scale of 1-10 in the base and performance periods for RY 2021.

incentive methodology approaches to target HCAHPS will be considered as part of the QBR redesign. Regarding the patient mix adjustment changes, as noted in the RY 2022 policy, CMS has advised staff that these changes occur on an ongoing basis, and are not considered materially significant for the VBP program. Further, staff recognizes that the use of the prospective preset scale may make this a potential issue to consider in Maryland. [7] Therefore, staff proposes again to work with QBR redesign subgroup to be convened in CY 2021 and the PMWG to evaluate the impact, if any, of the patient mix adjustment.

Timely Follow-up after Acute Exacerbations of Chronic Conditions

As part of the TCOC model, the State is required to establish Statewide Integrated Health Improvement Strategies (SIHIS) across three domains that include hospital quality, care transformation across the system, and total population health.[8] Within the care transformation across the system domain, a goal has been established to improve care coordination for patients with chronic conditions. To assess this goal, staff identified a National Quality Forum (NQF) endorsed health plan measure that evaluates the percentage of ED visits, observation stays, and inpatient admissions for exacerbations of six conditions where a patient received follow-up within time frames recommended by clinical practices;[9] the chronic conditions and follow-up time frames include:

- Hypertension (7 days)
- Asthma (14 days)
- Heart Failure (14 days)
- CAD (14 days)
- COPD (30 days)
- Diabetes (30 days)

It should be noted that since non-hospital outpatient data is required for this measure that the HSCRC staff can only calculate follow-up for Medicare FFS beneficiaries at this time using Medicare claims.[10] Figure 5 provides a comparison of Maryland versus national Medicare performance for each condition, as well as the total follow-up rate across all conditions for CY 2019.[11] This figure shows that Maryland performs slightly worse on three of the conditions and the same or better on three of the conditions. Since the TCOC model includes a Maryland specific primary care model, it is highly likely that CMS will include

[7]The Patient-Mix Adjustment document for the October 2020 Public Report period can be found at: https://www.hcahpsonline.org/globalassets/hcahps/mode-patient-mix-adjustment/october_2020_pma_web_document.pdf

[8] For more information, refer to the Performance Measurement Workgroup meeting slides for August, September and October, 2020.

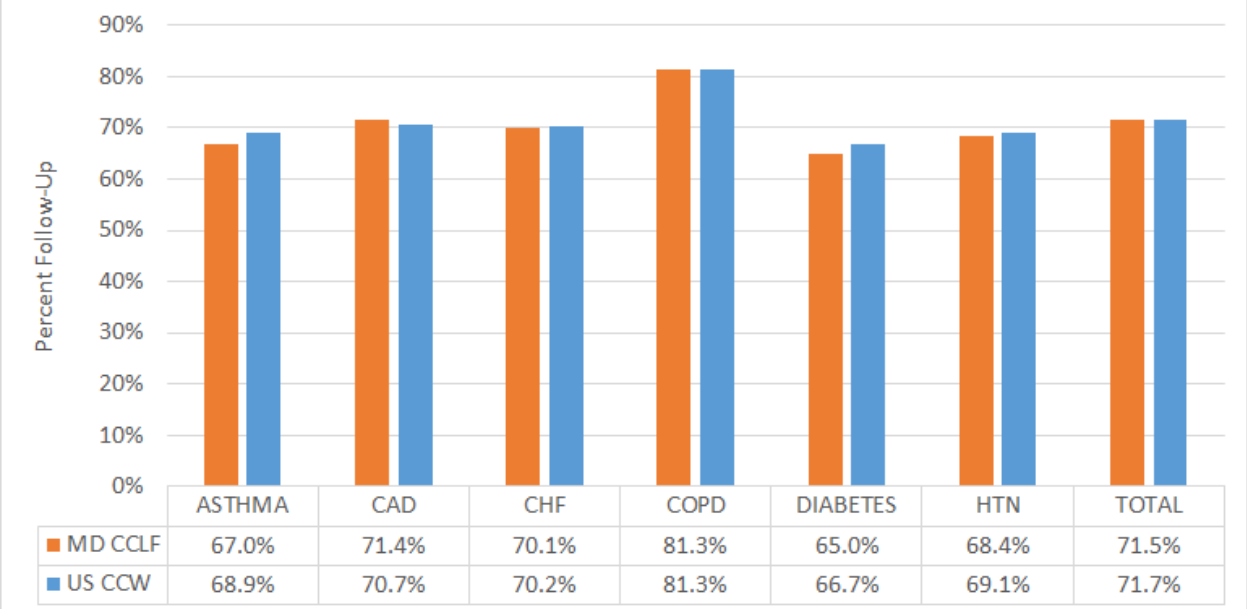
[9] The measure, NQF 3455, was developed by IMPAQ on behalf of CMS.

[10] HSCRC staff is working with Medicaid and other payers to explore whether we can calculate an all-payer version of this measure in the future.

[11] Maryland rates are calculated from the Claims and Claims-line Feed (CCLF) data, while the national rates are calculated from the 5 percent sample in the CMS Chronic Condition Warehouse (CCW).

timely follow-up care in its overall evaluation of the TCOC Model; staff notes that timely follow-up care was also evaluated under the All-Payer Model.[12] Thus, there are many reasons why Maryland should focus on improving rates of timely follow-up care relative to the nation.

Figure 5. Follow-Up Rate for Medicare FFS in 2019, Maryland vs. National



	ASTHMA	CAD	CHF	COPD	DIABETES	HTN	TOTAL
MD CCLF	67.0%	71.4%	70.1%	81.3%	65.0%	68.4%	71.5%
US CCW	68.9%	70.7%	70.2%	81.3%	66.7%	69.1%	71.7%

Once this measure was selected for SIHIS, staff worked with stakeholders to develop performance targets for Year 3, 5, and 8 as shown in Figure 6. To bolster the State's efforts in meeting these SIHIS targets, staff proposes to add a hospital-level QBR measure to the PCE Domain for RY 2023. The PCE domain was selected since discharge info (of which getting appropriate follow-up should be included) is one of the HCAHPS measures. In general, PMWG members and other stakeholders have been supportive of this SIHIS goal and understand the rationale to include a hospital-level incentive. Staff will implement this measure using the methodology that is used for other QBR measures. Specifically, staff will use a CY 2019 base period to calculate a threshold (statewide hospital median rate) and benchmark (mean of the top 10 percent of Maryland hospitals) and then assign hospital scores on this measure (0-10 points) by comparing CY 2021 performance to the threshold and benchmark for attainment and CY 2019 rates for improvement. Similar to other measures in the QBR program, staff will provide opportunities to earn points on this measure as the higher of attainment and improvement. Furthermore, staff will work with CRISP to leverage health information exchange tools for hospitals to track patient follow-up and to develop monitoring reports so that hospitals can track hospital progress during the performance period.

[12] The CMS evaluation of the MD All-Payer Model, conducted by RTI, included an all condition evaluation of follow-up after discharge within fourteen days; staff believes that the NQF condition-specific follow-up measure is more clinically precise and actionable.

Figure 6. Follow-Up Targets for SIHIS

Domain 2: Care Transformation Domain				
Goal: Improve care coordination for patients with chronic conditions				
Measure	2018 Baseline	2021 Year 3 Milestone	2023 Year 5 Interim Target	2026 Year 8 Final Target
Timely Follow-up After Acute Exacerbations of Chronic Conditions^ (NQF# 3455)	71.59%	72.43% 1.17 percent improvement	73.28% 2.35 percent improvement	75.00% 4.76 percent improvement or 0.50 percent better than the national rate

^Medicare Only based on CCLF data. Maryland will pursue adding and setting goals for additional payers (e.g., Medicaid) and expanding the conditions evaluated (e.g., follow-up after mental health hospitalization).

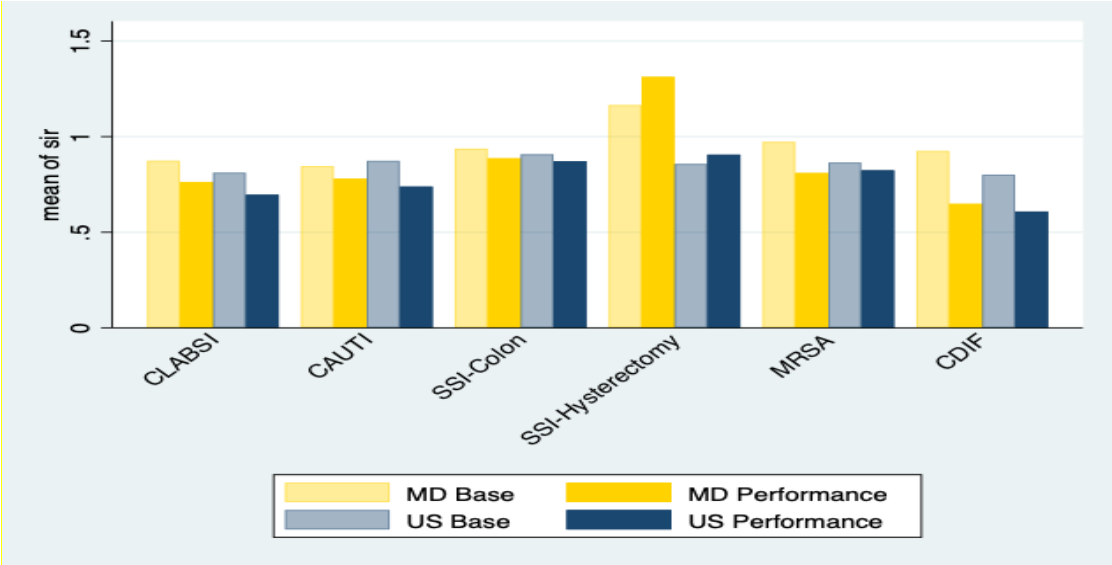
Based on the analysis of the Person and Community Engagement domain, HSCRC staff proposes to continue to weight this domain at 50 percent of the QBR score, with the follow-up measure added to the HCAHPS measures in the domain. Staff proposes to consider ED wait time measure options, including the eCQM version of the ED-2b measure, as part of the QBR redesign during CY 2021 with potential re-adoption of an ED throughput measure for the RY 2024 policy.

Safety Domain

The **Safety** domain comprises five measures of six CDC National Health Safety Network (NHSN) healthcare associated infection (HAI) categories. As illustrated in Figure 7 below, Maryland's performance on the NHSN measures has been mixed (lower scores are better). Average hospital standardized infection ratios (SIRs) for five of the six HAI categories declined (improved) both nationally and for Maryland in the performance period compared to the base.[13] Maryland's improvement from the base was: better than that of the nation for three of the six measures (SSI colon, MRSA, and CDIF), and; on par with the nation for two measures (CLABSI CAUTI). Both Maryland and the nation were worse in the performance period than the base period for SSI Hysterectomy. Finally, in the performance period, Maryland's infection rates were better (lower) for MRSA; on par for SSI colon and CDIFF, slightly worse (higher) for CLABSI and CAUTI; and, markedly worse for SSI hysterectomy.

[13] While there are six Healthcare Associated Infection categories, the two SSI colon and hysterectomy categories are combined resulting in five Safety domain measures.

Figure 7. Maryland vs. National Mean Hospital SIRs on NHSN HAI Safety Measures (Base period Calendar Year 2017, Performance period October 1, 2018 to September 30, 2019)



Patient Safety Indicator (PSI)-90

The Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicators (PSI) were developed[14] and released in 2003 to help assess the quality and safety of care for adults in the hospital. PSIs focus on potential in-hospital complications and adverse events following surgeries, procedures, and childbirth.

AHRQ's specified PSI uses include:

- Assess, monitor, track, and improve the safety of inpatient care
- Comparative public reporting, trending, and pay-for-performance initiatives
- Identify potentially avoidable complications that result from a patient's exposure to the health care system
- Detect potential safety problems that occur during a patient's hospital stay

The discharge weighted average of the observed-to-expected ratios for the following subset of AHRQ's PSIs comprise the PSI-90 composite measure:

- PSI 03 Pressure Ulcer Rate
- PSI 06 Iatrogenic Pneumothorax Rate

[14] AHRQ contracted with the University of California, San Francisco, Stanford University Evidence-based Practice Center, and the University of California Davis for development. For additional Information: https://www.qualityindicators.ahrq.gov/Modules/psi_resources.aspx

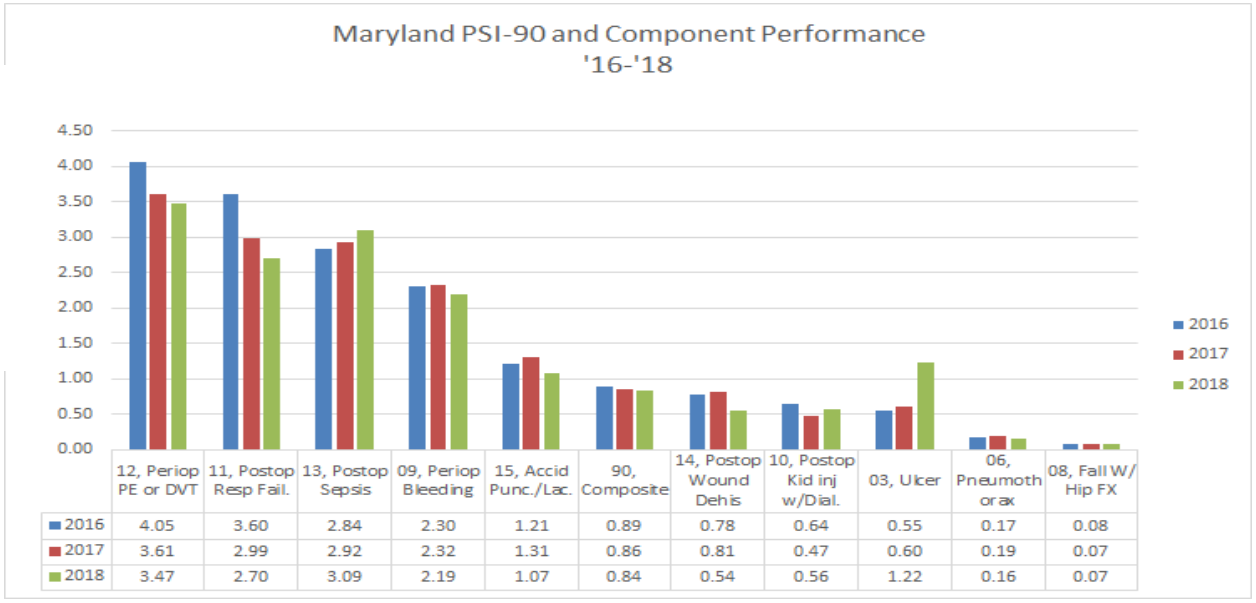
- PSI 08 In-Hospital Fall With Hip Fracture Rate
- PSII 09 Perioperative Hemorrhage or Hematoma Rate
- PSI 10 Postoperative Acute Kidney Injury Requiring Dialysis Rate
- PSI 11 Postoperative Respiratory Failure Rate
- PSI 12 Perioperative Pulmonary Embolism (PE) or Deep Vein Thrombosis (DVT) Rate
- PSI 13 Postoperative Sepsis Rate
- PSI 14 Postoperative Wound Dehiscence Rate
- PSI 15 Abdominopelvic Accidental Puncture or Laceration Rate

CMS first adopted the composite in the VBP program in FFY 2015 and removed the measure in FY 2019-FY 2022 due to operational constraints from the International Classification of Diseases, Tenth Revision (ICD-10) transition. The HSCRC had used the ICD-9 version of this measure in the QBR program. CMS adopted the updated NQF endorsed ICD-10 version of the measure that will be used beginning with the FY 2023 Hospital VBP program.[15]

To align with the VBP program and expand the QBR program's measurement of preventable complications that cause patient harm and increase the cost of hospital care, staff vetted the inclusion of the all-payer version of the PSI-90 measure in QBR with the PMWG stakeholders. In general, staff and stakeholders are supportive of including this measure, as it was used previously and is part of national VBP program. Maryland statewide performance has improved (lower rates) on the PSI-90 overall composite as well as the majority of the component indicator measures between 2016 and 2018 as illustrated in Figure 8 below.

[15] For more information on the measure removal and adoption, reference the FY 2018 IPPS/LTCH PPS final rule (82 FR 38242-38244) and (82 FR 38251-38256).

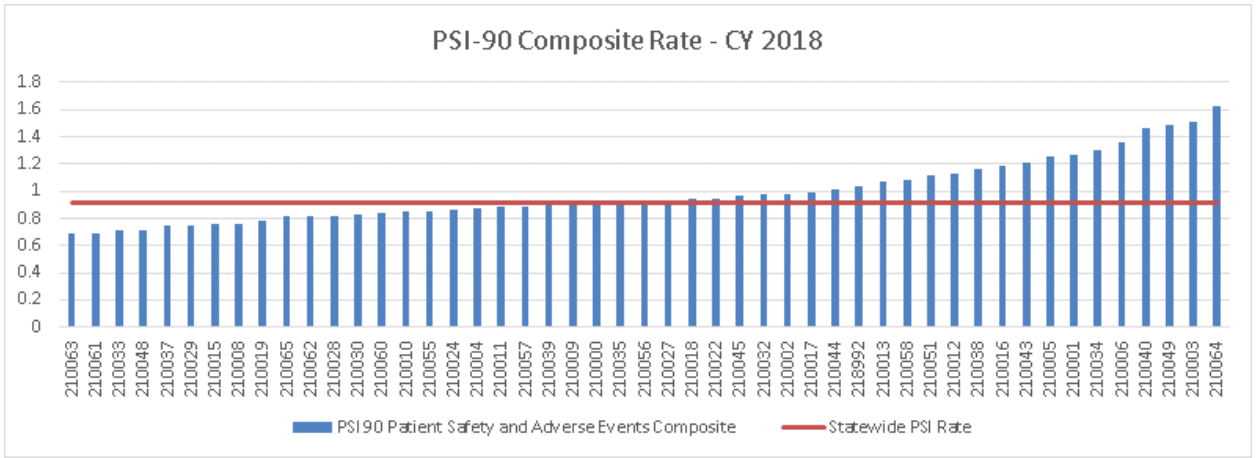
Figure 8. Maryland Statewide All-Payer Performance on PSI-90 and Component Indicators, 2016-2018



	12, Periop PE or DVT	11, Postop Resp Fail.	13, Postop Sepsis	09, Periop Bleeding	15, Accid Punc./Lac.	90, Composite	14, Postop Wound Dehis	10, Postop Kid inj w/Dial.	03, Ulcer	06, Pneumoth orax	08, Fall W/ Hip FX
2016	4.05	3.60	2.84	2.30	1.21	0.89	0.78	0.64	0.55	0.17	0.08
2017	3.61	2.99	2.92	2.32	1.31	0.86	0.81	0.47	0.60	0.19	0.07
2018	3.47	2.70	3.09	2.19	1.07	0.84	0.54	0.56	1.22	0.16	0.07

Figure 9 below illustrates the hospital-level performance on the PSI-90 composite measure for CY 2018; the wide variation in performance by hospital suggests there is opportunity for improvement on this measure.

Figure 9. PSI-90 Hospital-Level Performance, CY 2018



Based on assessment of the Safety domain, Staff proposes continuing to weight the domain at 35 percent of the total QBR score, and to include the PSI-90 composite measure back into the program. Regarding Maryland performance on the NHSN HAI measures, staff proposes to consider options for alternative methodologies to further assess performance and to target improvement as part of the QBR redesign work in CY 2021; this will include evaluating statewide

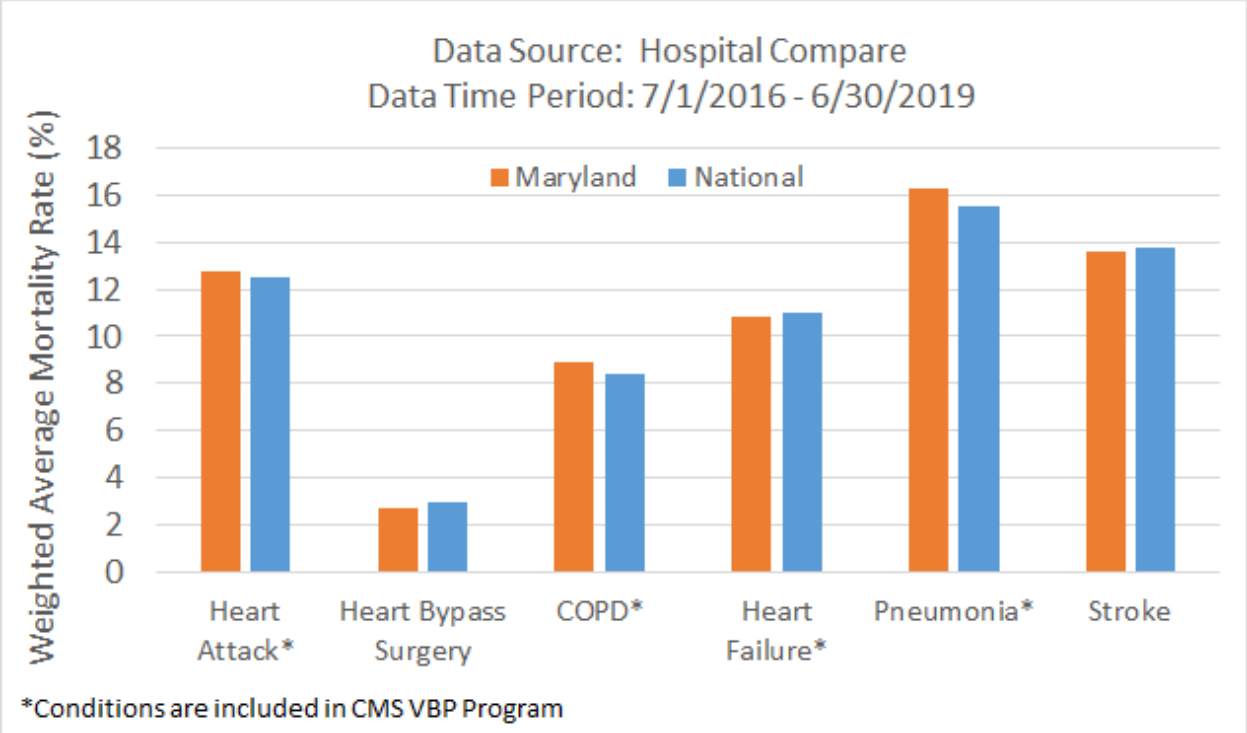
performance against the VBP benchmark and threshold values for the most current performance period, among other evaluation and incentive design approaches.

Clinical Care Domain

The QBR **Clinical Care** domain consists of one all-payer, all-cause, all-condition inpatient mortality measure, while the Medicare VBP program includes four 30-day condition-specific mortality measures (Heart Attack, Heart Failure, Pneumonia, and COPD). Medicare also monitors two additional 30-day mortality measures for Coronary Artery Bypass Graft and Stroke, but does not include these measures in VBP. Both QBR and VBP include the Total Hip and Knee Arthroplasty (THA/TKA) complication measure on Medicare patients with elective primary procedures.

Based on the analysis of the weighted average rates for Maryland versus the nation for the condition specific mortality measures, Maryland performs similarly to the nation for all condition-specific measures of 30-day mortality (Figure 10).

Figure 10. Maryland Hospital Performance Compared with the nation on CMS Condition-Specific Mortality Measures



For the QBR all-payer inpatient mortality measure for RY 2021, which assesses hospital services where 80% of the mortalities occur (80% DRG exclusion), statewide survival rate increased (improved) from

95.57% in the base period to 96.00% in the performance period. As illustrated in Figure 11 below, all but three hospitals earned points for either attainment or improvement on the mortality measure; 34 hospitals performed better than the statewide threshold (50th percentile) as they earned at least one attainment point.

Figure 11. Maryland Hospital Performance, FY 2021 QBR

Inpatient All Condition, All Payer Mortality Measure

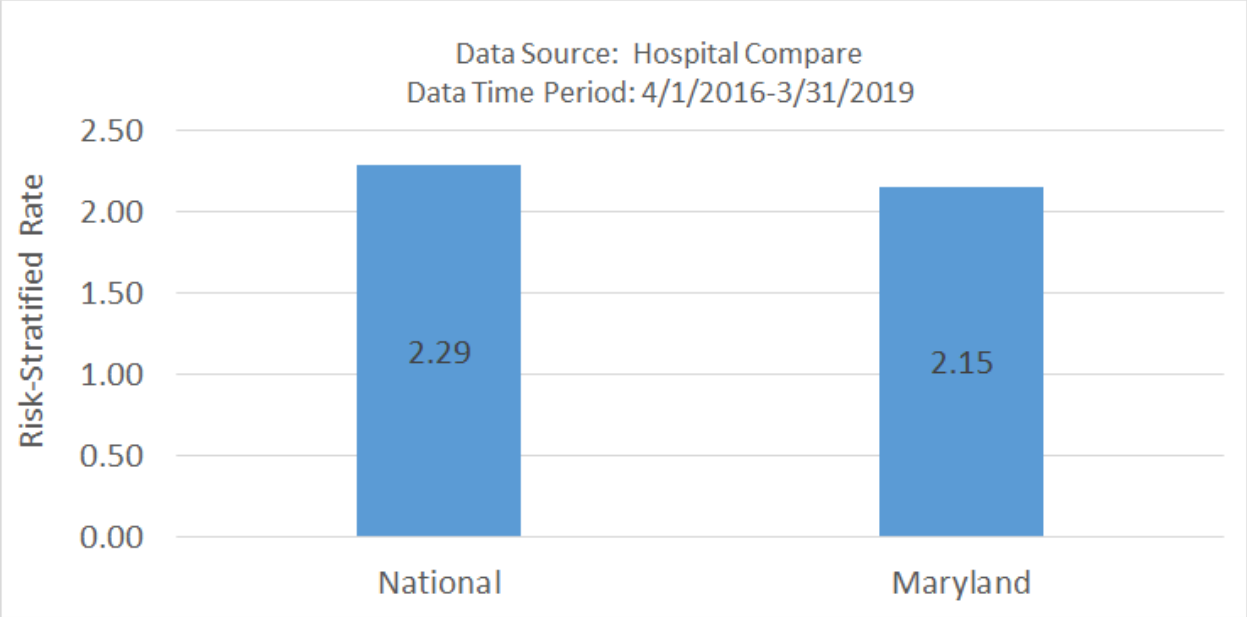
Number of Hospitals Scoring Points		Attainment Points	
		Yes	No
Improvement Points	Yes	29	3
	No	5	8

For RY 2023, staff is not proposing any significant methodology changes to the inpatient mortality measure. However, staff continue to work with contractor support to develop an all-payer, all-cause mortality measure and plan to develop reports for monitoring this measure during CY 2021. Furthermore, this new mortality measure will require additional vetting with the QBR redesign subgroup and the PMWG during the course of the coming year, with potential plans for inclusion of the measure in the RY 2024 QBR program.

Hip and Knee Arthroplasty Complications

For the hip and knee complication rate measure for RY 2021, Figure 12 illustrates that, based on analysis of the weighted average rates for Maryland and the nation, Maryland performed better than the nation on this measure.

Figure 12. Maryland THA/TKA Measure Performance Compared to the Nation



Since this measure is calculated by Hospital Compare using Medicare claims data using 3-year base and performance periods and includes only Medicare patients, payer stakeholders of the PMWG have voiced support for expanding this measure to the commercial population and other payers if feasible. In addition, staff notes that this measure is applicable only to patients in the inpatient setting. With the removal of elective hip and knee replacement procedures from the Medicare "inpatient only" list--procedures for which Medicare will reimburse only if performed in the inpatient setting--, and the shift of these procedures to the outpatient setting, staff believes the QBR redesign subgroup should consider both payer and care setting applicability options for measure expansion.

THA-TKA and Academic Small Hospital Complexity Exclusion

Staff proposed at the October PMWG meeting an academic small hospital complexity exclusion. Currently Johns Hopkins is excluded from the THA-TKA measure because they do not have 25 elective THA-TKA procedures during the three year performance period; UMMS however was included in RY 2021 with 29 cases several of which UMMS does not believe should have been classified as elective. Given PMWG member concerns about the academic portion of this exclusion, staff are exploring changing this exclusion to be solely based on sample size and case-mix index. This will be brought forth at the November PMWG meeting and then staff will update the final policy.

Staff proposes continuing to include the inpatient mortality measure and hip and knee

replacement complication measure in the Clinical Care domain consistent with the VBP program, and continuing to weight the Clinical Care domain at 15 percent.

Appendix IV details the available published performance standards (for VBP measures) for each measure by domain for RY2024; staff will calculate and disseminate the inpatient mortality standards when Version 38 of the 3M APR DRG grouper is implemented.

COVID-19 Public Health Emergency Program Adjustments

Staff notes that, on September 2, 2020, CMS published an Interim Final Rule (IFR) in response to the COVID-19 PHE. In this IFR, they announced that:

- CMS will not use CY Q1 or CY Q2 of 2020 quality data for FFY 2022 pay-for-performance programs, even if submitted by hospitals.
- CMS still reserves the right to suspend application of revenue adjustments for FFY 2022 for all hospital pay for performance programs at a future date in CY 2021; changes will be communicated through memos ahead of IPPS rules.

It is not known at this time if Maryland has flexibility in suspending our RY 2022 pay-for-performance programs, and furthermore, Maryland's decision must be made prior to CMS making their decision due to the prospective nature of our pay-for-performance programs. However, CMMI has strongly suggested that the State must have quality program adjustments, and has further suggested that the State pursue alternative strategies to achieve reliable and valid RY 2022 quality measurement, such as reusing some or all of CY 2019 data (as is being done for the Skilled Nursing Facility VBP program).

In context of the CMS announcement and subsequent CMMI comments, staff has evaluated the data issues and options for the RY 2022 QBR program in Maryland, as illustrated in Figure 13 below.

Figure 13. RY 2022 COVID-Related Data Concerns and Options

COVID Data Concern	Inpatient Mortality (source: HSCRC case mix data)	HCAHPS, CDC NHSN, Hip Knee Complic. (source: CMS Hospital Compare)
Only 6 months of data for CY 2020: ● Is 6-months data reliable? ● What about seasonality? ● How will HSCRC access the six months of Hospital Compare data, typically presented on a rolling 12-months basis?	● Remove COVID patients from July-December 2020 ● Consider combining with 6 months of CY 2019 data.	● Consider using CY 2019 data, re-using 3 quarters of RY 2021 data and 1 quarter of RY 2022 data (HCAHPS, CDC NHSN) ● Consider suspending from the program (Hip Knee Complic.)
Clinical concerns over inclusion of COVID patients	● Use 6-months data, adjust base as needed for seasonality concerns ● Merge 2019 and 2020 data together to create a 12 month performance period ● Use 2019 data or revenue	● Consider using CY 2019 data, re-using 3 quarters of RY 2021 data and 1 quarter of RY 2022 data (HCAHPS, CDC NHSN) ● Consider suspending from the program (HIP KNEE COMPLIC.)
Case-mix adjustment and performance standard concerns: ● Inclusion of COVID patients when not in normative values ● Impacts on other DRG/SOI of COVID PHE	● Remove COVID patients from CY 2020 ● Develop concurrent norms and performance standards for comparison and possible use ● Use 2019 data or revenue adjustments	N/A

At this stage, staff believes the most appropriate approach for the QBR program is to exclude the COVID-19 patients[16] from the inpatient mortality measure if any CY 2020 data is used. Over the coming months,

[16] COVID-19 cases are defined as those coded with the ICD10 code U07.1

staff will work to assess any case-mix adjustment and performance standard issues due to the absence of COVID-19 patients in the base period and normative values, and to finalize the performance period. Staff will provide updates to the Commission in February, at the earliest, on the final decisions for any adjustments to all RY 2022 quality policies.

For RY 2023, the program to calculate the mortality measure will use v38 of the APR DRG grouper, which is updated with additional clinical logic changes impacting Risk of Mortality for COVID-19 positive patients. Staff will need to consider any additional modifications to address case-mix adjustment and performance standard concerns that may arise from inclusion of COVID-19 positive patients in the performance period, especially since COVID-19 cases were not part of the statewide normative values. Furthermore, based on stakeholder comments, analyses should be done on case-mix adjustment and performance standards concerns for non-COVID patients. For the other CMS Hospital Compare measures, staff will wait for updates from CMS in the coming months on how they will address the data issues for the FFY 2023 VBP program and adopt their approach if feasible.

Score and Revenue Adjustment Modeling

For this draft policy, staff compared the RY 2021 scores and revenue adjustments without the ED wait time measure and with the incremental addition of the PSI-90 and follow-up measures. Beyond the measure changes, the QBR scores and revenue adjustments were calculated using the methodology approved for RY 2021 and RY 2022. This includes maintaining the reward/penalty cut-point at 41 percent, which was the FFY19 national average score using QBR weights (the staff anticipate being able to calculate the FFY20 national average as part of the final QBR policy as the data was published on 10/28/2020). Specifically, these are the three models included in this policy:

- Model 1: RY 2021 data and time periods without ED wait time measure
- Model 2: Model 1 + PSI-90 (FY 18 base, CY19 performance)
- Model 3: Model 2 + follow-up measure (CY17 base, CY19 performance)

Hospital-specific domain scores and total QBR scores for each model are included in Appendix V. The modeled hospital-specific and statewide revenue impacts are found in Appendix VI. Figure 14 provides descriptive statistics for the total QBR scores for each model. This indicates that inclusion of the PSI measure (Model 2) reduces the average hospital score slightly, while inclusion of the follow-up measure with PSI (Model 3) raises the average score slightly, albeit they are still less than Model 1. Staff believes, however, that the changes in scores are not significant enough to warrant a change to the revenue adjustment scale.

Figure 14. Hospital Score Models

Descriptive Statistics	Model 1: RY 2021 - ED wait times	Model 2: RY 2021 - ED + PSI	Model 3: RY 21 - ED + PSI + Follow Up
Median	32.98%	30.96%	31.28%
Average	33.33%	32.54%	32.72%
Min	14.30%	12.08%	12.90%
Max	49.33%	50.17%	50.03%
25th Percentile	25.58%	26.79%	27.03%
75th Percentile	41.83%	39.33%	40.61%

Using the scores presented above, staff modeled revenue adjustments using the RY 2022 preset scale. This scale is designed to not reward hospitals for performance that lag behind the nation. Figure 15 provides the estimated statewide revenue adjustments and counts of hospitals receiving a reward and penalty. Overall, the estimated revenue adjustments are fairly similar across the models, although penalties are the highest and rewards the lowest in Model 3. While the lower scores in Model 2 and Model 3 might call into question the current cut point of 41 percent, given CMS concerns on QBR performance, staff does not think this can be lowered at this time and believes that with incentives on PSI and the follow-up measure, performance will be better than shown in the modeling.

Figure 15. Revenue Modeling

Descriptive Statistics	Model 1: RY 2021 - ED wait times		Model 2: RY 2021 - ED + PSI		Model 3: RY 21 - ED + PSI + Follow Up	
	$	%	$	%	$	%
Net Adjustments	-$48,681,640	-0.49%	-$50,220,773	-0.50%	-$51,457,907	-0.51%
Penalties	-$50,932,110	-0.51%	-$52,265,008	-0.52%	-$53,468,408	-0.53%
Rewards	$2,250,470	0.02%	$2,044,235	0.02%	$2,010,501	0.02%
# Hospitals Penalized	30		33		32	
# Hospitals Rewarded/ Not Penalized	12		9		10	

QBR Future Updates

As previously mentioned, staff intends to convene a sub-group of the Performance Measurement Workgroup, comprised of key stakeholders and subject-matter experts, to consider an overhaul of the QBR program in the first half of CY 2021. This redesign was originally scheduled to occur during CY 2020 but was put on hold in light of the ongoing COVID-19 public health emergency. Subsequently, CMS has reviewed QBR performance as part of the FFY 2021 exemption request, and has raised concerns about Maryland's performance. Thus, CMS has asked that the HSCRC submit a QBR sub-group work plan to them as part of the annual monitoring report that is due December 31st, 2020 and a report detailing the sub-group's activities and recommendations by June 30th 2021. Staff previously developed a workplan for this sub-group and will meet these deadlines, but does note the additional effort required by both staff and stakeholders.

This QBR Redesign sub-group will review the existing QBR policy and goals of the TCOC model, and will develop recommendations to modify the QBR program for the RY 2024 QBR Policy and beyond. Because the QBR policy assesses multiple domains of hospital quality, this program is particularly well suited for expanding into new areas that are relevant under the TCOC model. To accomplish this redesign, which will necessitate consideration of measures and domains outside of those in the current program, the sub-group will consider 1) measurement selection, which will include evaluating the feasibility of including other CMS inpatient and outpatient measures, as well as retaining measures currently used, or adopting other measures that cover important all-payer clinical areas that may not be addressed by CMS measurement and reporting; and 2) methodological concerns, which will include appropriate risk adjustment, scoring, and scaling, and establishing reasonable performance targets.

Among the topics the sub-group may consider are the following:

Strengthen the current incentives to improve patient experience (HCAHPS) **and** safety measures**, including methodology updates that** better target underperforming measures**.**

- Explore potential new QBR measures for **outpatient care** adopted or adapted from those already in the CMS hospital reporting pipeline, including measures not currently used in pay-for-performance.
- Consider options for re-adoption of **ED wait time measures.**
- Evaluate **disparities in performance** on the QBR measures and consider incentives for achieving health equity.
- Develop hospital pay-for-performance programs that foster accountability for broader care transformation and population health initiatives. Specifically, the QBR program could be utilized to support goals developed for the State Integrated Health Improvement Strategy (SIHIS) that do not fit under other quality programs.
- Evaluate additional **data sources** needed for performance measurement under the TCOC model such as eCQMs.

Staff acknowledges that this program redesign will require substantial work in concert with industry and a broad array of other stakeholders, including consumers, payers, cross-continuum providers, quality measurement experts, and government agencies (local, state, and federal). Staff welcomes additional topics for consideration related to the QBR sub-group, and encourages those interested in participating in the sub-group to contact the Quality team at hscrc.quality@maryland.gov.[17]

[17] Stakeholders who were previously selected to participate will be contacted to verify continued ability and interest.

Draft Recommendations for RY 2023 QBR Program

Recommendations for RY 2023 QBR Program

1. Continue **Domain Weighting** as follows for determining hospitals' overall performance scores: Person and Community Engagement (PCE) - 50 percent, Safety (NHSN measures) - 35 percent, Clinical Care - 15 percent.
2. Implement the following **measure updates**:
    A. Add an exclusion for academic hospitals or for hospitals with lower case volumes and higher Case Mix Index (CMI) for the hip/knee complication measure.
    B. Add follow-up after acute exacerbations for chronic conditions measure to the PCE Domain.
    C. Add PSI-90 measure to the Safety domain
3. Maintain the **pre-set scale** (0-80 percent with cut-point at 41 percent), and continue to hold 2 percent of inpatient revenue at-risk (rewards and penalties) for the QBR program.
4. Convene a QBR Redesign Work Group in the first half of 2021 that targets the CMS concerns and implements identified strategic priorities for quality.
5. Adjust retrospectively the RY 2022 and RY 2023 QBR pay-for-performance program methodology as needed due to COVID-19 Public Health Emergency and report changes to Commissioners.

APPENDIX I. CMS NOTIFICATION OF MARYLAND QUALITY PROGRAMS EXEMPTION, FFY 2021

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid
Services 7500 Security Boulevard
Baltimore, Maryland 21244-1850

CENTER FOR MEDICARE AND MEDICAID INNOVATION

September 29, 2020

Katie Wunderlich
Executive Director,
HSCRC 4160 Patterson
Avenue
Baltimore, Maryland 21215

Re: Maryland's Request for Hospital Quality Program Exemption for Federal Fiscal Year

2021 Dear Ms. Wunderlich,

CMS has received your letter on behalf of the State of Maryland that requests an exemption from the national hospital quality and value-based payment programs for federal fiscal year (FFY) 2021 which include the Hospital Value-Based Purchasing (HVBP) program, Hospital Acquired Conditions Reduction (HAC) program, and the Hospital Readmissions Reduction program (HRRP). Under Section 8.d.iii. of the Maryland Total Cost of Care Model (MDTCOC model) Agreement, the Centers for Medicare & Medicaid Services (CMS) will waive Maryland from participating in the national hospital quality and value-based payment programs as long as the State implements hospital quality and value-based payment programs that achieve or surpass the measured results in terms of patient outcomes and cost savings in HVBP, HAC, and HRRP.

Under section 12.d.i.3 and 12.d.i.4 if CMS determines that the State has not improved quality or failed to demonstrate that the State's hospital and value-based payment program achieves or surpasses the measured results in terms of patient outcomes and cost savings in relation to the national program of equivalent, the result could qualify as an *other event*, and CMS may pursue corrective action as described in section 12.d.ii, including requiring the State to submit a formal *Corrective Action Plan* (CAP) or *termination* of the HVBP, HAC, or HRRP Medicare payment waivers.

CMS has reviewed your exemption request and is concerned with the State's performance under the QBR program; appendix A includes the QBR performance results for RY 2021 (performance June 2018-July 2019), as provided by the State. The Nation performed better than Maryland on five of the six safety measures in both the base and performance periods. Maryland's performance on five of six safety measures also failed to meet or exceed performance in comparison to the State specified base period.

Additionally, the Nation also performed better than Maryland on all eight HCAHPS measures in both the base and performance periods. Should this trend continue for future performance years (FFY 2022 and beyond), CMS may consider this an other event and pursue corrective action.

For FFY 2021, we have used our discretion to grant the State of Maryland's exemption from HVBP, HAC, and HRRP on the basis of expected QBR performance improvement, favorable performance

improvement under MHAC, and consistent performance under RRIP that has exceeded national outcomes. CMS strongly encourages the State to consider the QBR related requests, outlined below.

Quality Based Reimbursement (QBR): CMS reviewed each of the three domains under the QBR program, which includes clinical care, safety measures, and person and community engagement. Maryland's performance continues to lag behind the nation under the person and community engagement and safety measure domains. As a result, CMS agrees with the State's approach to propose a QBR program redesign for implementation in RY 2023 and supports the creation of a QBR focused subgroup tasked with leading this initiative. In the interim, CMS requests that the State integrate a high- level work plan to address CMS' concerns related to QBR and other program performance into the progress report defined at 16.b and Appendix D, due at the end of CY 2020. This work plan should include QBR redesign subgroup objectives, detail outlining the actionable strategies required to accomplish each objective, and an associated project milestone timeline. CMS requests the receipt of a more comprehensive report detailing QBR redesign subgroup findings and formalized plans to improve quality performance by the end of June 2021. This report and subsequent QBR policy changes will be
heavily considered in evaluating the State's national hospital quality and value-based payment programs exemption request for FFY 2022.

In addition to addressing person and community engagement and safety measure domains, we support HSCRC's plans to consider ED Wait Time measure options as part of the QBR redesign during CY 2021 with potential re-adoption of measures for RY 2023 and beyond. The State has had a longstanding issue with extended ED wait times compared to the nation. Therefore, CMS encourages the State to consider patient-centered care as a guiding principal when redesigning the QBR program.

Finally, as discussed in the FFY 2020 Hospital Quality Program Exemption approval memo, CMS encourages the State to hold hospitals accountable for high quality obstetric care. The State may consider integrating maternal and child health clinical topic areas into the QBR program redesign to improve the patient care experience in Maryland hospitals.

Potentially Avoidable Utilization (PAU) Savings: CMS supports expanding the definition of avoidable utilization to include ED and additional categories of unplanned admissions or other types of

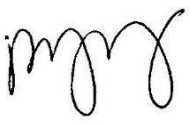
unnecessary utilization, as it encourages a broader range of accountability and alignment of financial incentives across the TCOC Model. As a result of the Commission approved shift to a per capita PAU performance evaluation for Prevention Quality Indicators (PQIs) and Pediatric Quality Indicators (PDIs),
CMS expects the State set a concrete per capita PQI reduction target, and looks forward to reviewing the State's proposed per capita avoidable admissions target via the SIHIS by December 31, 2020.

Medicare Performance Adjustment (MPA): CMS understands the State plans to redesign components of the MPA, including the beneficiary attribution algorithm and moving to an attainment target under the program. CMS reaffirms its commitment to ensure the MPA incentivizes hospitals to extend their reach to include beneficiaries who are attributed to a hospital but do not have an associated hospital stay or participate in a CTI; CMS supports the State's initiative to transition to a pure geographic method of attribution as it simplifies the algorithm and provides predictability when assessing Total Cost of Care performance. In addition, CMS reiterates its request that the State consider increasing the amount of revenue at risk under the MPA to progressively incentivize care coordination and alignment between hospitals, hospital-based physicians/clinicians, and community based clinicians/physician. Increased accountability between hospital and non-hospital entities under the MPA provides the State with greater flexibility to control Medicare total cost of care without simultaneously changing all-payer hospital revenues; it is critical that revenue at risk under the MPA continue to increase to account for expenditure growth beyond hospital walls.

Improvement Strategy: CMS supports the HSCRC's approach to evaluate the efficacy of Maryland's hospital quality programs through ensuring key clinical topic areas, such as obstetric care and maternal/child health, are adequately addressed by the current measures. We support State efforts to explore opportunities to achieve greater health equity through reducing disparities, to assess how complications can be measured outside the inpatient setting, and to determine if expanding the quality adjustment under the MPA would continue to improve hospital pay-for-performance programs.
Ultimately, CMS expects the State to progressively align hospital pay-for-performance programs with the broader population health strategies of the model. CMS recognizes that the COVID-19 pandemic has caused quality program delays, data concerns, and other unforeseen model challenges. CMS remains committed to our partnership with the State and supports efforts to collaboratively work through these challenges on an ongoing basis.

Thank you for your continued efforts to improve the quality of hospital care in Maryland. Should you have any questions, please do not hesitate to contact the MDTCOC Model team.

Sincerely,



Pierre Yong, MD, MPH
Director, Division of All-Payer Models
Center for Medicare and Medicaid Innovation

Appendix A. sourced from "*Maryland All-Payer Model and TCOC Model Quality Programs Update and Request for further VBP Exemption in Federal Fiscal Year 2021*"

Appendix A.

RY 2021 QBR (CY2017 Base; Jul2018-Jun2019 YTD Perf unless otherwise specified)

Measures	MD Base	MD YTD Perfor-mance	MD Base Performance Difference	US Base	US YTD Perfor-mance	US Base Performance Difference	MD-US Diff in Base	MD-US Diff in YTD Performance
CLINICAL CARE - OUTCOMES								
Observed Mortality IP All-Cause (Maryland All-Payer) **[1]**	4.43%	4.00%	-0.43%	N/A	N/A	N/A	N/A	N/A
30-day mortality, AMI (Medicare) **[2]**	12.99	12.77	-0.21	13.01	12.67	-0.35	0.03	-0.11
30-day mortality, CABG (Medicare)	2.69	2.76	0.06	3.08	3.00	-0.08	0.39	0.24
30-day mortality, COPD (Medicare)	9.02	8.94	-0.08	8.37	8.52	0.15	-0.65	-0.43
30-day mortality, HF (Medicare)	11.03	11.02	0.00	11.39	11.18	-0.21	0.36	0.16
30-day mortality, PN (Medicare)	16.40	16.27	-0.13	15.71	15.63	-0.08	-0.69	-0.64
30-day, Mortality STK (Medicare)	14.02	13.71	-0.31	14.34	13.95	-0.38	0.32	0.24
Complications Hip/Knee **[3]**	2.38	2.32	-0.06	2.43	2.41	-0.02	0.05	0.09
SAFETY [4]								
AHRQ PSI composite (MD All-Payer)								
CLABSI	0.78	0.87	0.09	0.71	0.81	0.10	-0.07	-0.06
CAUTI	0.80	0.85	0.04	0.77	0.87	0.11	-0.04	0.03
SSI Colon	0.86	0.94	0.08	0.87	0.91	0.04	0.01	-0.03
SSI Abdominal Hysterectomy	1.44	1.17	-0.27	0.90	0.86	-0.04	-0.54	-0.31
MRSA	0.83	0.97	0.14	0.83	0.86	0.04	-0.01	-0.11
C.diff.	0.68	0.93	0.24	0.64	0.80	0.16	-0.04	-0.12
PATIENT EXPERIENCE OF CARE - HCAHPS Top-Box Scores [4]								
Communication with nurses	76%	76%	0%	80%	81%	1%	-4%	-5%
Communication with doctors	78%	77%	-1%	82%	82%	0%	-4%	-5%
Responsiveness of Hospital Staff	61%	61%	0%	70%	70%	0%	-9%	-9%
Communication about medicines	60%	61%	1%	66%	66%	0%	-6%	-5%
Cleanliness and Quietness	62%	63%	1%	69%	69%	0%	-6%	-6%
Discharge Information	86%	87%	1%	87%	87%	0%	-1%	0%
Care Transitions Measure	49%	49%	0%	53%	53%	0%	-4%	-4%
Overall Rating of Hospital	67%	66%	-1%	73%	73%	0%	-6%	-7%

APPENDIX II. HSCRC QBR PROGRAM BACKGROUND, DETAILED OVERVIEW

The Affordable Care Act established the hospital Medicare Value-Based Purchasing (VBP) program,[18] 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.[19] The Affordable Care Act set the maximum penalty and reward at 2 percent for federal fiscal year (FFY) 2017 and beyond.[20]

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 percent, 35 percent, and 50 percent 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 percent), 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 was measured by the national Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey instrument to 50 percent. The weighting was increased in order to raise incentives for HCAHPS improvement, as Maryland has consistently lagged behind the nation on these measures. In RY 2020, ED-1b, and ED-2b wait time measures for admitted patients were added to this domain with the domain weight remaining at 50 percent; in RY 2021, the domain weight remained constant but the ED-1b measure was removed from

[18] 42 USC § 1395ww(o)(7).

[19] 42 USC § 1395ww(o)(7)(C).

[20] The HCAHPS increase reduced the Clinical Care domain from 20 percent to 15 percent.

the program. For RY 2022, ED-2b was removed from QBR as CMS no longer required submission of the measure for the Inpatient Quality Reporting (IQR) program.

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 be innovative and progressive. Figure 1 below compares the RY 2022 QBR measures and domain weights to those used in the CMS VBP program.

Figure 1. RY 2022 QBR Measures and Domain Weights Compared with CMS VBP Program[21]

	Maryland QBR Domains and Measures	CMS VBP Domain Weights and Measure Differences
Clinical Care	15 percent (2 measures: all cause inpatient Mortality; THA/TKA Complication)	25 percent (5 measures: 4 condition-specific Mortality, THA/TKA Complication)
Person and Community Engagement	50 percent (8 HCAHPS measures)	25 percent Same HCAHPS measures
Safety	35 percent (5 measures: CDC NHSN)*	25 percent (5 measures: CDC NHSN)*
Efficiency	N/A	25 percent (Medicare Spending Per Beneficiary measure)

*While there are six Healthcare Associated Infection categories, the two SSI colon and hysterectomy categories are combined resulting in five Safety domain measures.

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 percent) 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 percent.

[21] Details of CMS VBP measures may be found at: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Measure-Methodology.html ; last accessed 10./28/19.

Domain Weights and Revenue At-Risk

As illustrated in the body of the report, for the RY 2021 QBR program, the policy weighted the clinical care domain at 15 percent of the final score, the Safety domain at 35 percent, and the Person and Community Engagement domain at 50 percent.

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.[22] Rewards (positive scaled amounts) or penalties (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 2 percent and a penalty of 2 percent of total approved base inpatient revenue across all hospitals.

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,[23] allowing the HSCRC to use data submitted directly to CMS. 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 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).

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 and ED Wait Time measures, the benchmarks and thresholds are the same as those used by CMS for the VBP program measures.[24] For each measure, a hospital that has a rate at or above

[22] 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.
[23] VBP measure specifications may be found at: www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Measure-Methodology.html
[24] As an exception, 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.

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 the ED-2b measure if it has earned at least one improvement point and if its improvement score would reduce its overall QBR score. If this measure is excluded, the Person and Community Engagement domain will reduce from 110 total points to 100 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 50 to 40 points. If it is exempt from two measures, the Safety domain score denominator would be 30 total possible points. Hospitals must have at least 2 of 5 Safety measures in order to be included in the Safety domain.

Domain Scores: The better of attainment and improvement for each measure is used to determine the measure points for each measure, which are then summed and divided by the total possible points in each domain and multiplied by 100.

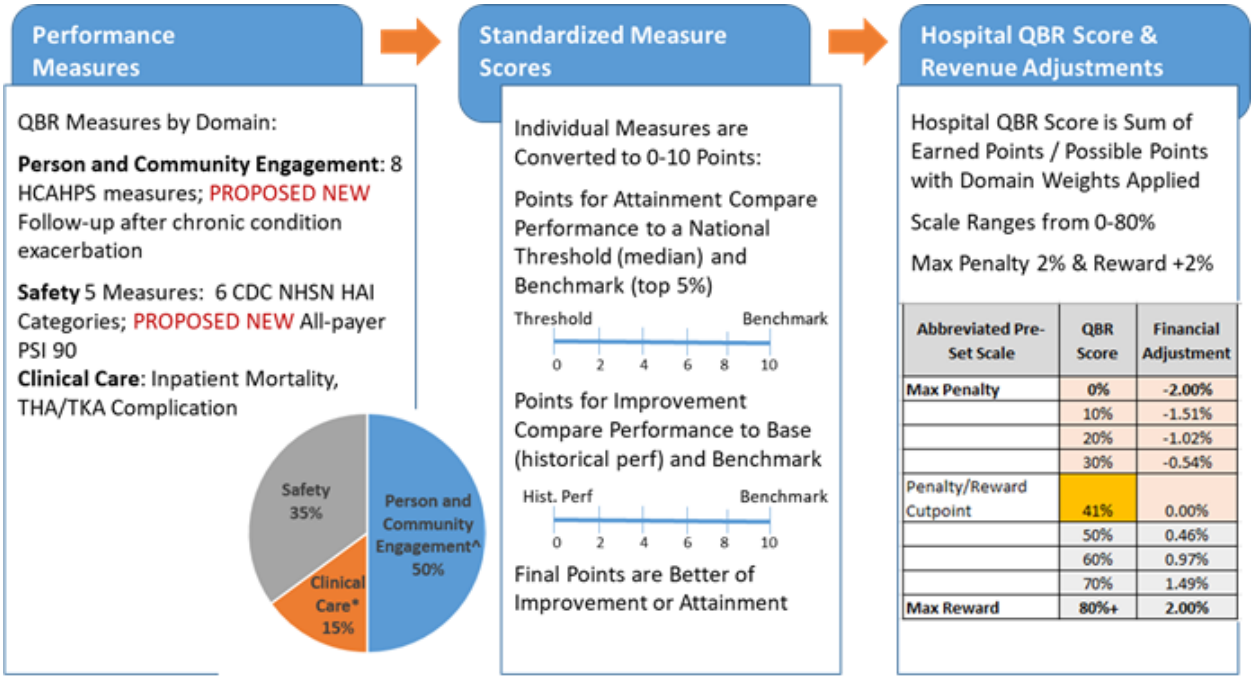
Total Performance Score*:* The total Performance Score is computed by multiplying the domain scores by their specified weights, then adding those totals The Total Performance Score is then translated into a reward/ penalty that is applied to hospital revenue.

Proposed RY 2023 QBR Program Updates

For RY 2023, no fundamental changes to the methodology, and the addition of the follow-up after acute exacerbation of chronic conditions and PSI-90 composite measures.

Figure 2 below depicts the steps for converting the measure scores to standardized scores for each measure, and then to rewards and penalties based upon total scores earned, with the proposed updates for RY 2023.

Figure 2. Proposed RY 2023 Process for Calculating QBR Scores



There are no fundamental changes proposed for the measures and domain weighting for RY 2023, as illustrated in Figure 3 below.

Figure 3. Proposed RY 2023 QBR Domains, Measures and Data Sources

	Clinical Care	Person and Community Engagement	Safety
Proposed QBR RY 23	15 percent 2 measures ☐ Inpatient Mortality (HSCRC case mix data) ☐ THA TKA (CMS Hospital Compare, Medicare claims data)	50 percent 9 measures ☐ 8 HCAHPS domains (CMS Hospital Compare patient survey) ☐ **NEW PROPOSED**:Follow up after acute exacerbation of Chronic Conditions (Medicare claims)	35 percent 7 measures ☐ 6 CDC NHSN HAI measures (CMS Hospital Compare chart abstracted) ☐ **NEW PROPOSED**: PSI 90 All-payer (HSCRC case mix data)

PSI 90 Measure (PROPOSED for RY 2023)

Newly proposed for RY 2023, the Patient Safety Indicators were developed by the Agency for Healthcare Research and Quality (AHRQ) in 2003.[25] PSI 90 comprises the weighted average of the observed-to-expected ratios for the following component indicators:

- PSI 03 Pressure Ulcer Rate
- PSI 06 Iatrogenic Pneumothorax Rate
- PSI 08 In-Hospital Fall With Hip Fracture Rate
- PSI 09 Perioperative Hemorrhage or Hematoma Rate
- PSI 10 Postoperative Acute Kidney Injury Requiring Dialysis Rate
- PSI 11 Postoperative Respiratory Failure Rate
- PSI 12 Perioperative Pulmonary Embolism (PE) or Deep Vein Thrombosis (DVT) Rate
- PSI 13 Postoperative Sepsis Rate
- PSI 14 Postoperative Wound Dehiscence Rate
- PSI 15 Abdominopelvic Accidental Puncture or Laceration Rate

PSI 90 combines the smoothed (empirical Bayes shrinkage) indirectly standardized morbidity ratios (observed/expected ratios) from selected AHRQ Patient Safety Indicators (PSIs). The weights of the individual component indicators are based on two concepts: the volume of the adverse event and the harm associated with the adverse event. The volume weights were calculated based on the number of safety-related events for the component indicators in the all-payer reference population. The harm weights were calculated by multiplying empirical estimates of the probability of excess harms associated with each patient safety event by the corresponding utility weights (1–disutility). Disutility is the measure of the severity of the adverse events associated with each of the harms (i.e., outcome severity, or least preferred states from the patient perspective). The harm weights were calculated using linked claims data for two years of Medicare Fee for Service beneficiaries. Figure 3 below details the most current volume and harm weights for the PSI 90 component measures.

The PSI 90 measure scores are converted to program scores as outlined in the QBR Score Calculation section above.

[25] Source: https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2020/TechSpecs/PSI%2090%20Patient%20Safety%20and%20Adverse%20Events%20Composite.pdf

Figure 3. Composite Weights for PSI 90 v. 2020

INDICATOR	HARM WEIGHT	VOLUME WEIGHT	COMPONENT WEIGHT
PSI 3 Pressure Ulcer Rate	0.3080	0.1149	0.181
PSI 6 Iatrogenic Pneumothorax Rate	0.1381	0.0513	0.036
PSI 8 In Hospital Fall With Hip Fracture Rate	0.1440	0.0164	0.012
PSI 9 Perioperative Hemorrhage or Hematoma Rate	0.0570	0.1621	0.047
PSI 10 Postoperative Acute Kidney Injury Requiring Dialysis Rate	0.3584	0.0340	0.062
PSI 11 Postoperative Respiratory Failure Rate	0.2219	0.1485	0.168
PSI 12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate	0.1557	0.2569	0.204
PSI 13 Postoperative Sepsis Rate	0.3102	0.1510	0.239
PSI 14 Postoperative Wound Dehiscence Rate	0.1441	0.0137	0.010
PSI 15 Abdominopelvic Accidental Puncture or Laceration Rate	0.1474	0.0512	0.038

Source: 2017 State Inpatient Databases, Healthcare Cost and Utilization Program, Agency for Healthcare Research and Quality. 2012-2013 Medicare Fee-for-Service claims data.

Follow up after acute exacerbation for chronic conditions (PROPOSED for RY 2023)

Newly proposed for RY 2023, the measure was developed by IMPAQ on behalf of CMS.[26] Technical details for calculating measure scores are provided below.

Measure Full Title: Timely Follow-up After Acute Exacerbations of Chronic Conditions

Measure Steward: IMPAQ International

Description of Measure: The percentage of issuer-product-level acute events requiring either an emergency department (ED) visit or hospitalization for one of the following 6 chronic conditions: hypertension, asthma, heart failure (HF), coronary artery disease (CAD), chronic obstructive pulmonary disease (COPD), or diabetes mellitus (Type I or Type II), where follow-up was received within the timeframe recommended by clinical practice guidelines in a non-emergency outpatient setting

Unit of Analysis: Issuer-by-product

Numerator Statement: The numerator is the sum of the issuer-product-level denominator events (Emergency Room [ED], observation hospital stay or inpatient hospital stay) for acute exacerbation of hypertension, asthma, heart failure (HF), coronary artery disease (CAD), chronic obstructive pulmonary

[26] Source: https://impaqint.com/measure-information-timely-follow-after-acute-exacerbations-chronic-conditions

disease (COPD), or diabetes where follow-up was received within the timeframe recommended by clinical practice guidelines, as detailed below:

- Hypertension: Within 7 days of the date of discharge
- Asthma: Within 14 days of the date of discharge
- HF: Within 14 days of the date of discharge
- CAD: Within 14 days of the date of discharge
- COPD: Within 30 days of the date of discharge
- Diabetes: Within 30 days of the date of discharge

Numerator Details:

This measure is defined at the issuer-by-product level, meaning that results are aggregated for each qualified insurance issuer and for each product. For clarity, a product is a discrete package of health insurance coverage benefits that issuers offer in the context of a particular network type, such as health maintenance organization (HMO), preferred provider organization (PPO), exclusive provider organization (EPO), point of service (POS), or indemnity. Issuers are broadly defined as health insurance providers who participate in the Federally-facilitated Marketplaces and health insurance contracts offered in the Medicare Advantage market.

Timely follow-up is defined as a claim for the same patient after the discharge date of the acute event that is a non-emergency outpatient visit and has a CPT or HCPCS code indicating a visit that constitutes appropriate follow-up, as defined by clinical guidelines and clinical coding experts. The follow-up visit may be a general office visit or telehealth and take place in certain chronic care or transitional care management settings. The follow-up visit must occur within the condition-specific timeframe to be considered timely and for the conditions of the numerator/measure to be met. For a list of individual codes, please see the data dictionary attached in S.2b.

The follow-up visit timeframes for each of the 6 chronic conditions are based on evidence-based clinical practice guidelines (CPGs) as laid out in the evidence form.

Denominator Statement: The denominator is the sum of the issuer-product-level acute exacerbations that require either an ED visit, observation stay, or inpatient stay (i.e., acute events) for any of the 6 conditions listed above (hypertension, asthma, HF, CAD, COPD, or diabetes).

Denominator Details:

Acute events are defined as either an ED visit, observation stay, or inpatient stay. If a patient is discharged and another claim begins for the same condition on the same day or the following day, the claims are considered to be part of one continuous acute event. In this case, the discharge date of the last claim is the beginning of the follow-up interval. The final claim of the acute event must be a discharge to community.

An acute event is assigned to [condition] if:

1. The primary diagnosis is a sufficient code for [condition].

OR

2. The primary diagnosis is a related code for [condition] AND at least one additional diagnosis is a sufficient code for [condition].
    a. In cases where the event has two or more conditions with a related code as the primary diagnosis and a sufficient code in additional diagnosis positions, **assign the event to the condition with a sufficient code appearing in the "highest" (closest to primary) diagnosis position**.

If the visits that make up an acute event are assigned different conditions, the event is assigned the condition that occurs last in the sequence. Following this methodology, only one condition is recorded in the denominator per acute event. For a list of individual codes, please see the data dictionary attached in S.2b.

Denominator Exclusions:

The measure excludes events with:

1. Subsequent acute events that occur two days after the prior discharge, but still during the follow-up interval of the prior event for the same reason. To prevent double-counting, only the first acute event will be included in the denominator.
2. Acute events after which the patient does not have continuous enrollment for 30 days in the same product.
3. Acute events where the discharge status of the last claim is not "to community" ("Left against medical advice" is not a discharge to community.)
4. Acute events for which the calendar year ends before the follow-up window ends (e.g., acute asthma events ending fewer than 14 days before December 31)
5. Acute events where the patient enters a skilled nursing facility (SNF), non-acute care, or hospice care within the follow-up interval

Measure Scoring:

1) Denominator events are identified by hospitalization, observation, and ED events with appropriate codes (i.e., codes identifying an acute exacerbation of 1 of the 6 included chronic conditions).
2) Exclusions are applied to the population from step 1) to produce the eligible patient population for the measure (i.e., the count of all qualifying events).

3) For each qualifying event, it is determined whether or not claims included a subsequent code that satisfies the follow-up requirement for that particular qualifying event (e.g., a diabetes event received follow-up within the appropriate timeframe for diabetes, from an appropriate provider). Each event for which the follow-up requirement was satisfied is counted as 'one' in the numerator. Each event for which the follow-up requirement was not satisfied is counted as a 'zero' in the numerator.
4) The percentage score is calculated as the numerator divided by the denominator.

Measure Scoring Logic

Following NQF's guideline, we employ **Opportunity-Based Weighting** to calculate the follow-up measure. (1) This means that each condition is weighted by the sum of acute exacerbations that require either an ED visit or an observation or inpatient stay for all the six conditions that occur, as reflected in the logic below.

[NUM(ASM) + NUM(CAD) + NUM(HF) + NUM (COPD) + NUM(DIAB) + NUM(HTN)] / [DENOM(ASM) + DENOM(CAD) + DENOM(HF) + DENOM (COPD) + DENOM(DIAB) + DENOM(HTN)]

***Please note that, while the development team designed the measure to aggregate each condition score in the manner described above into a single overall score, programs may choose to also calculate individual scores for each chronic condition when implementing the measure. Individual measure scores would simply be calculated by dividing the condition-specific numerator by the condition specific denominator, as in the example for failure: NUM(HF) / DENOM(HF)

The Follow up measure scores are converted to QBR scores as outlined in the QBR Score Calculation section above.

QBR RY 2023 Base and Performance Periods by Measure

Figure 4 below Illustrates the base and performance period timeline for the RY 2023 QBR program.

Figure 4. RY 2023 Proposed Timeline (Base and Performance Periods; Financial Impact)

Rate Year (Maryland Fiscal Year)	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	Q1-22	Q2-22	Q3-22	Q4-22	Q1-23	Q2-23	Q3-23	Q4-23
Calendar Year	**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**	**Q1-22**	**Q2-22**	**Q3-22**	**Q4-22**	**Q1-23**	**Q2-23**
Quality Based Reimbursement (QBR) Base and Performance Periods					CMS Hospital Compare Base Period (HCAHPS measures, all CDC NHSN measures)														Rate Year Impacted by QBR Results			
												CMS Hospital Compare Performance Period (HCAHPS measures, all CDC NHSN measures)										
					Base Period Inpatient Mortality, PROPOSED PSI-90, Follow-up Chronic Conditions																	
													Performance Period Inpatient Mortality, PROPOSED PSI-90, Follow-up Chronic Conditions								
		CMS Hospital Compare THA/TKA Performance Period*X																				

*Hospital Compare THA /TKA Complications Base Period April 1, 2013-March 31, 2016

X CMS announced they will not use data for CY Quarters 1 and 2 for the quality pay for performance programs due to COVID-19 PHE; staff will consider options as CMS publishes updated measure base period.

APPENDIX III. RY 2021 PATIENT EXPERIENCE MEASURE RESULTS BY HOSPITAL

	HCAHPS Measure	Clean/Quiet		Nurse Comm		Doctor Comm		Staff Responsive		Understood Medications		Discharge Information		Understood Post-Disch Care		Hospital Rating 9 or 10	
CMS ID	Hosp Name	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base
210001	MERITUS MEDICAL CENTER	62.5	-0.5	79	2	77	1	62	1	60	1	89	1	47	0	65	-2
210002	UNIVERSITY OF MARYLAND MEDICAL CENTER	58	2	80	2	81	3	61	3	61	-2	88	0	51	-1	70	1
210003	UNIVERSITY OF MD PRINCE GEORGE'S HOSPITAL CTR	46.5	-6	60	-3	66	-7	37	-7	45	-4	79	2	32	-6	41	-5
210004	HOLY CROSS HOSPITAL	61.5	-4	73	1	75	1	58	3	59	4	83	2	41	-3	69	5
210005	FREDERICK MEMORIAL HOSPITAL	68	-2	81	1	78	-1	62	2	63	1	89	0	51	1	70	0
210006	UNIVERSITY OF MARYLAND HARFORD MEMORIAL HOSPITAL	58	0.5	78	0	78	2	56	-4	63	8	83	2	46	0	62	-3
210008	MERCY MEDICAL CENTER INC	73	1	80	-1	82	0	71	3	62	-9	90	2	58	3	77	-1
210009	JOHNS HOPKINS HOSPITAL, THE	70	0.5	83	2	82	2	63	2	65	1	90	2	62	4	84	3
210011	SAINT AGNES HOSPITAL	60.5	1.5	75	-1	77	-2	59	-1	60	-2	85	-1	47	-2	63	-4
210012	SINAI HOSPITAL OF BALTIMORE	63	1	75	-3	78	1	58	-2	57	-5	85	-2	49	0	65	-4
210013	BON SECOURS HOSPITAL	60.5	-5	66	-11	73	-9	53	-11	57	-6	84	-6	51	5	51	-6
210015	MEDSTAR FRANKLIN SQUARE MEDICAL CENTER	64	5.5	78	3	79	1	64	4	65	0	89	1	48	0	68	-2
210016	ADVENTIST HEALTHCARE WASHINGTON ADVENTIST HOSPITAL	66.5	6	77	4	80	5	64	5	62	3	89	5	47	4	73	6
210017	GARRETT COUNTY MEMORIAL HOSPITAL	70	4	84	5	88	7	81	11	65	-3	89	-2	55	4	75	4

	HCAHPS Measure	Clean/Quiet		Nurse Comm		Doctor Comm		Staff Responsive		Understood Medications		Discharge Information		Understood Post-Disch Care		Hospital Rating 9 or 10	
CMS ID	Hosp Name	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base
210018	MEDSTAR MONTGOMERY MEDICAL CENTER	63.5	3.5	68	-3	72	-2	59	6	53	-2	85	-1	44	0	61	0
210019	PENINSULA REGIONAL MEDICAL CENTER	65	3	80	1	79	1	64	1	65	5	88	-2	52	-2	73	2
210022	SUBURBAN HOSPITAL	61	-4.5	76	-1	80	0	60	-3	59	2	85	1	52	1	68	-3
210023	ANNE ARUNDEL MEDICAL CENTER	65	-2.5	79	-2	79	-2	65	-4	62	0	87	2	53	-1	74	-3
210024	MEDSTAR UNION MEMORIAL HOSPITAL	63.5	-4.5	77	-2	83	1	63	0	67	2	89	0	54	4	69	-4
210027	WESTERN MARYLAND REGIONAL MEDICAL CENTER	68	0.5	79	0	75	-3	61	-2	64	-3	90	-1	51	-1	67	-3
210028	MEDSTAR SAINT MARY'S HOSPITAL	64	-2	80	2	77	-1	64	3	66	6	89	-1	51	2	68	0
210029	JOHNS HOPKINS BAYVIEW MEDICAL CENTER	57.5	-0.5	78	2	81	2	60	-2	63	1	88	0	54	0	68	-1
210032	UNION HOSPITAL OF CECIL COUNTY	58	-2.5	74	-3	69	-7	61	-1	57	-4	85	-1	43	-3	61	-3
210033	CARROLL HOSPITAL CENTER	64.5	-1	75	-4	71	-2	63	0	58	-4	89	2	48	1	66	2
210034	MEDSTAR HARBOR HOSPITAL	62	-3.5	73	-3	75	-5	61	-4	60	-5	86	0	48	1	63	-6
210035	UNIVERSITY OF MD CHARLES REGIONAL MEDICAL CENTER	68	5	77	-1	73	0	61	-3	62	0	86	1	43	-6	65	2
210037	UNIVERSITY OF MD SHORE MEDICAL CENTER AT EASTON	66.5	-0.5	80	-1	79	0	67	-1	61	-1	86	0	49	-1	65	-1
210038	UNIVERSITY OF MD MEDICAL CENTER MIDTOWN CAMPUS	65	1.5	75	1	79	3	62	-2	59	-1	82	-2	50	2	67	4
210039	CALVERTHEALTH MEDICAL CENTER	64	-0.5	75	-6	75	-1	59	-5	56	-8	85	-3	44	-6	61	-5
210040	NORTHWEST HOSPITAL CENTER	68.5	5	76	0	75	-1	68	2	61	-1	87	-1	49	2	66	1

	HCAHPS Measure	Clean/Quiet		Nurse Comm		Doctor Comm		Staff Responsive		Understood Medications		Discharge Information		Understood Post-Disch Care		Hospital Rating 9 or 10	
CMS ID	Hosp Name	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base	Perf Pd	Δ frm Base
210043	UNIVERSITY OF MD BALTO WASHINGTON MEDICAL CENTER	65	3.5	78	1	77	0	63	7	63	4	87	1	49	-1	69	3
210044	GREATER BALTIMORE MEDICAL CENTER	55.5	-2.5	78	-1	79	-2	58	-5	62	2	83	-6	50	-2	72	-1
210048	HOWARD COUNTY GENERAL HOSPITAL	64.5	1	78	-1	77	-1	61	0	60	1	86	0	52	0	68	-4
210049	UNIVERSITY OF M D UPPER CHESAPEAKE MEDICAL CENTER	60	-3	76	-3	75	-3	58	-3	62	-1	86	0	48	-3	64	-5
210051	DOCTORS' COMMUNITY HOSPITAL	58	-1	70	-3	74	-2	57	-2	53	-8	82	-4	43	1	59	-7
210056	MEDSTAR GOOD SAMARITAN HOSPITAL	62.5	1	77	-2	79	1	63	3	62	-2	88	-2	50	2	66	-1
210057	ADVENTIST HEALTHCARE SHADY GROVE MEDICAL CENTER	61.5	-0.5	74	-3	73	-6	51	-9	55	-6	87	0	50	0	67	-4
210060	FORT WASHINGTON HOSPITAL	52	-4.5	70	-3	74	-3	58	-8	50	-5	81	-2	45	3	54	-2
210061	ATLANTIC GENERAL HOSPITAL	62.5	2	82	4	84	5	70	2	66	2	92	4	54	2	75	6
210062	MEDSTAR SOUTHERN MARYLAND HOSPITAL CENTER	61	3.5	72	3	77	2	57	2	56	-1	84	1	41	-1	51	-4
210063	UNIVERSITY OF MARYLAND ST JOSEPH MEDICAL CENTER	65.5	-2	82	1	81	0	68	-1	61	-1	88	-1	54	-1	76	-2
210064	LEVINDALE HEBREW GERIATRIC CENTER AND HOSPITAL	57.5	16	58	-1	66	0	44	-1	49	8	88	3	44	-6	44	-12
210065	HOLY CROSS GERMANTOWN HOSPITAL	62.5	-4	72	6	76	0	57	8	58	3	86	4	44	-3	68	3

APPENDIX IV. RY 2023 QBR PERFORMANCE STANDARDS

Previously Established and Newly Established Performance Standards for the FY 2023 Program Year		
Measure Short Name	**Achievement Threshold**	**Benchmark**
Safety Domain		
CMS PSI 90*^ +**(PROPOSED NEW)**	(Prelim): 0.873	(Prelim): 0.587
CAUTI*+	0.676	0
CLABSI*+	0.596	0
CDI*+	0.544	0.01
MRSA Bacteremia*+	0.727	0
Colon and Abdominal Hysterectomy SSI*+	0.734 0.732	0 0
Clinical Outcomes Domain		
Inpatient Mortality	TBD	TBD
COMP-HIP-KNEE*#	0.027428	0.019779

* Lower values represent better performance.

^Preliminary using CY 2019 data.

Previously established performance standards

+ The newly established performance standards displayed in this table for the CDC NHSN measures (CAUTI, CLABSI, CDI, MRSA Bacteremia, and Colon and Abdominal Hysterectomy SSI) were published in CMS FY 2021 IPPS Final Rule and calculated using four quarters of CY 2019 data.

New Proposed Measure for FY 2023	**Person and Community Engagement Domain±**	
	Achievement Threshold	**Benchmark**
Follow Up after Exacerbation for Chronic Conditions	72.57	79.68

Newly Established Performance Standards for the FY 2023 Program Year: Person and Community Engagement Domain±			
HCAHPS Survey Dimension	**Floor (minimum)**	**Achievement Threshold (50th percentile)**	**Benchmark (mean of top decile)**
Communication with Nurses	53.50	79.42	87.71
Communication with Doctors	62.41	79.83	87.97
Responsiveness of Hospital Staff	40.40	65.52	81.22
Communication about Medicines	39.82	63.11	74.05
Hospital Cleanliness & Quietness	45.94	65.63	79.64
Discharge Information	66.92	87.23	92.21
Care Transition	25.64	51.84	63.57
Overall Rating of Hospital	36.31	71.66	85.39

± The newly established performance standards displayed in this table were calculated using four quarters of CY 2019 data.

APPENDIX V. MODELING OF SCORES BY DOMAIN: RY 2021 QBR DATA WITH RY 2023 MEASURE UPDATES

This appendix includes modeled QBR scores with ED wait times removed, PSI-90 included, and Follow-up after Discharge included. Please see the final three columns for the Total Score under each scenario (1. Remove ED Wait Times, 2. Remove ED Wait Times and add PSI-90, 3. Remove ED Wait Times and add PSI-90 and Follow-up Measure).

Hospital ID	Hospital Name	HCAHPS Final Score without ED	HCAHPS Final Score without ED with Follow-up	Mortality Final Score	THA-TKA Score	Safety Final Score	Safety Final Score + PSI	Total Score - RY21 QBR without ED Wait Time Measure	Total Score - RY21 QBR without ED Wait Time Measure, with PSI-90	Total Score - RY21 QBR without ED Wait Time, with PSI-90 and Follow-up
210001	MERITUS MEDICAL CENTER	21.00%	27.27%	90.00%	100.00%	40.00%	36.67%	38.50%	37.33%	40.47%
210002	UNIVERSITY OF MARYLAND MEDICAL CENTER	22.00%	20.00%	20.00%	40.00%	30.00%	35.00%	25.50%	27.25%	26.25%
210003	UM-PRINCE GEORGEbS HOSPITAL CENTER	2.00%	3.64%	0.00%		38.00%	31.67%	14.30%	12.08%	12.90%
210004	HOLY CROSS HOSPITAL	21.00%	20.91%	20.00%	0.00%	16.00%	13.33%	18.10%	17.17%	17.12%
210005	FREDERICK HEALTH HOSPITAL, INC	26.00%	30.00%	100.00%	20.00%	52.00%	43.33%	42.20%	39.17%	41.17%
210006	UM-HARFORD MEMORIAL HOSPITAL	19.00%	20.00%	100.00%	50.00%	33.33%	25.00%	33.67%	30.75%	31.25%
210008	MERCY MEDICAL CENTER	46.00%	41.82%	0.00%	100.00%	6.00%	8.33%	30.10%	30.92%	28.83%
210009	JOHNS HOPKINS HOSPITAL	52.00%	47.27%	40.00%		6.00%	5.00%	34.10%	33.75%	31.39%
210010	UM-SHORE REGIONAL HEALTH AT DORCHESTER	20.00%	20.91%	60.00%	90.00%	58.00%	51.67%	40.80%	38.58%	39.04%
210011	ST. AGNES HOSPITAL	15.00%	13.64%	10.00%	90.00%	36.00%	30.00%	25.60%	23.50%	22.82%
210012	SINAI HOSPITAL	15.00%	14.55%	40.00%	100.00%	16.00%	13.33%	22.10%	21.17%	20.94%

Hospital ID	Hospital Name	HCAHPS Final Score without ED	HCAHPS Final Score without ED with Follow-up	Mortality Final Score	THA-TKA Score	Safety Final Score	Safety Final Score + PSI	Total Score - RY21 QBR without ED Wait Time Measure	Total Score - RY21 QBR without ED Wait Time Measure, with PSI-90	Total Score - RY21 QBR without ED Wait Time, with PSI-90 and Follow-up
210015	MEDSTAR FRANKLIN SQUARE	27.00%	25.45%	90.00%	60.00%	32.00%	26.67%	36.70%	34.83%	34.06%
210016	ADVENTIST WHITE OAK HOSPITAL	38.00%	36.36%	0.00%	90.00%	56.00%	46.67%	43.10%	39.83%	39.02%
210017	GARRETT COUNTY MEMORIAL HOSPITAL	59.00%	59.09%	0.00%	40.00%		50.00%	48.63%	49.00%	49.05%
210018	MEDSTAR MONTGOMERY MEDICAL CENTER	15.00%	19.09%	40.00%	50.00%	60.00%	48.00%	35.00%	30.80%	32.85%
210019	PENINSULA REGIONAL MEDICAL CENTER	28.00%	32.73%	10.00%	100.00%	16.00%	23.33%	25.60%	28.17%	30.53%
210022	SUBURBAN HOSPITAL	20.00%	25.45%	20.00%	100.00%	14.00%	18.33%	21.90%	23.42%	26.14%
210023	ANNE ARUNDEL MEDICAL CENTER	23.00%	23.64%	40.00%	100.00%	16.00%	30.00%	26.10%	31.00%	31.32%
210024	MEDSTAR UNION MEMORIAL HOSPITAL	32.00%	29.09%	80.00%	100.00%	35.00%	28.00%	41.25%	38.80%	37.35%
210027	UPMC - WESTERN MARYLAND	25.00%	30.00%	30.00%	60.00%	20.00%	23.33%	25.50%	26.67%	29.17%
210028	MEDSTAR ST. MARY'S HOSPITAL	29.00%	30.00%	30.00%	100.00%	76.67%	57.50%	49.33%	42.63%	43.13%
210029	JOHNS HOPKINS BAYVIEW MEDICAL CENTER	22.00%	22.73%	30.00%	100.00%	28.00%	23.33%	28.80%	27.17%	27.53%
210032	CHRISTIANACARE, UNION HOSPITAL	14.00%	12.73%	10.00%	50.00%	42.50%	40.00%	25.38%	24.50%	23.86%
210033	CARROLL HOSPITAL CENTER	19.00%	19.09%	100.00%	90.00%	62.00%	51.67%	45.70%	42.08%	42.13%
210034	MEDSTAR HARBOR HOSPITAL CENTER	15.00%	13.64%	40.00%	0.00%	36.00%	43.33%	24.10%	26.67%	25.98%
210035	UM-CHARLES REGIONAL MEDICAL CENTER	20.00%	19.09%	40.00%	100.00%	50.00%	53.33%	36.50%	37.67%	37.21%

Hospital ID	Hospital Name	HCAHPS Final Score without ED	HCAHPS Final Score without ED with Follow-up	Mortality Final Score	THA-TKA Score	Safety Final Score	Safety Final Score + PSI	Total Score - RY21 QBR without ED Wait Time Measure	Total Score - RY21 QBR without ED Wait Time Measure, with PSI-90	Total Score - RY21 QBR without ED Wait Time, with PSI-90 and Follow-up
210037	UM-SHORE REGIONAL HEALTH AT EASTON	20.00%	20.91%	80.00%	90.00%	58.00%	60.00%	42.80%	43.50%	43.95%
210038	UMMC MIDTOWN CAMPUS	18.00%	17.27%	70.00%		52.50%	52.00%	37.88%	37.70%	37.34%
210039	CALVERT HEALTH MEDICAL CENTER	14.00%	15.45%	100.00%	90.00%	60.00%	45.00%	42.50%	37.25%	37.98%
210040	NORTHWEST HOSPITAL CENTER	22.00%	20.00%	100.00%	100.00%	18.00%	16.67%	32.30%	31.83%	30.83%
210043	UM-BALTIMORE WASHINGTON MEDICAL CENTER	25.00%	25.45%	80.00%	10.00%	56.00%	61.67%	40.60%	42.58%	42.81%
210044	GREATER BALTIMORE MEDICAL CENTER	16.00%	17.27%	80.00%	100.00%	20.00%	16.67%	28.00%	26.83%	27.47%
210048	HOWARD COUNTY GENERAL HOSPITAL	18.00%	20.91%	50.00%	80.00%	40.00%	33.33%	32.00%	29.67%	31.12%
210049	UM-UPPER CHESAPEAKE MEDICAL CENTER	15.00%	18.18%	80.00%	100.00%	28.00%	23.33%	30.30%	28.67%	30.26%
210051	DOCTORS COMMUNITY MEDICAL CENTER	12.00%	10.91%	70.00%	70.00%	72.00%	71.67%	41.70%	41.58%	41.04%
210056	MEDSTAR GOOD SAMARITAN	20.00%	18.18%	60.00%	50.00%	34.00%	28.33%	30.40%	28.42%	27.51%
210057	SHADY GROVE ADVENTIST HOSPITAL	10.00%	14.55%	0.00%	40.00%	42.00%	35.00%	21.70%	19.25%	21.52%
210060	ADVENTIST HEALTHCARE FORT WASHINGTON MEDICAL CENTER	11.00%	10.00%	0.00%	100.00%			16.47%	16.47%	15.70%
210061	ATLANTIC GENERAL HOSPITAL	47.00%	44.55%	0.00%	80.00%	43.33%	52.50%	42.67%	45.88%	44.65%
210062	MEDSTAR SOUTHERN	12.00%	10.91%	20.00%	0.00%	68.00%	56.67%	31.80%	27.83%	27.29%

Hospital ID	Hospital Name	HCAHPS Final Score without ED	HCAHPS Final Score without ED with Follow-up	Mortality Final Score	THA-TKA Score	Safety Final Score	Safety Final Score + PSI	Total Score - RY21 QBR without ED Wait Time Measure	Total Score - RY21 QBR without ED Wait Time Measure, with PSI-90	Total Score - RY21 QBR without ED Wait Time, with PSI-90 and Follow-up
	MARYLAND HOSPITAL CENTER									
210063	UM-ST. JOSEPH MEDICAL CENTER	33.00%	32.73%	100.00%	100.00%	44.00%	53.33%	46.90%	50.17%	50.03%
210065	HOLY CROSS HOSPITAL-GERMANTOWN	23.00%	20.91%	50.00%		70.00%	72.00%	43.50%	44.20%	43.15%

APPENDIX VI. MODELING OF QBR PROGRAM REVENUE ADJUSTMENTS

RY 2021 QBR SCALING		RY21 without ED Wait Times		RY21 without ED Wait Times and with PSI		RY21 without ED Wait Times and with PSI	
HOSPID	HOSPITAL NAME	% Revenue Impact	$ Revenue Impact	% Revenue Impact	$ Revenue Impact	% Revenue Impact	$ Revenue Impact
210001	MERITUS	-0.12%	-$259,257	-0.18%	-$388,886	-0.03%	-$64,814
210002	UNIVERSITY OF MARYLAND	-0.76%	-$9,373,280	-0.67%	-$8,263,286	-0.72%	-$8,879,950
210003	PRINCE GEORGE	-1.30%	-$3,423,711	-1.41%	-$3,713,410	-1.37%	-$3,608,065
210004	HOLY CROSS	-1.12%	-$4,078,744	-1.16%	-$4,224,414	-1.16%	-$4,224,414
210005	FREDERICK MEMORIAL	0.06%	$140,965	-0.09%	-$211,448	0.01%	$23,494
210006	HARFORD	-0.36%	-$196,560	-0.50%	-$273,000	-0.48%	-$262,080
210008	MERCY	-0.53%	-$1,299,473	-0.49%	-$1,201,400	-0.59%	-$1,446,583
210009	JOHNS HOPKINS	-0.34%	-$5,225,852	-0.35%	-$5,379,554	-0.47%	-$7,223,972
210010	DORCHESTER	-0.01%	-$2,052	-0.12%	-$24,621	-0.10%	-$20,517
210011	ST. AGNES	-0.75%	-$1,869,191	-0.85%	-$2,118,417	-0.89%	-$2,218,107
210012	SINAI	-0.92%	-$4,082,545	-0.97%	-$4,304,422	-0.98%	-$4,348,798
210013	BON SECOURS	2.00%	$0	2.00%	$0	2.00%	$0
210015	FRANKLIN SQUARE	-0.21%	-$648,591	-0.30%	-$926,558	-0.34%	-$1,050,099
210016	WASHINGTON ADVENTIST	0.11%	$197,724	-0.06%	-$107,849	-0.10%	-$179,749
210017	GARRETT COUNTY	0.39%	$89,753	0.41%	$94,356	0.41%	$94,356

RY 2021 QBR SCALING		RY21 without ED Wait Times		RY21 without ED Wait Times and with PSI		RY21 without ED Wait Times and with PSI	
HOSPID	HOSPITAL NAME	% Revenue Impact	$ Revenue Impact	% Revenue Impact	$ Revenue Impact	% Revenue Impact	$ Revenue Impact
210018	MONTGOMERY GENERAL	-0.29%	-$245,746	-0.50%	-$423,700	-0.40%	-$338,960
210019	PENINSULA REGIONAL	-0.75%	-$1,948,514	-0.63%	-$1,636,751	-0.51%	-$1,324,989
210022	SUBURBAN	-0.93%	-$2,023,698	-0.86%	-$1,871,377	-0.72%	-$1,566,734
210023	ANNE ARUNDEL	-0.73%	-$2,333,756	-0.49%	-$1,566,494	-0.47%	-$1,502,555
210024	UNION MEMORIAL	0.01%	$25,856	-0.11%	-$284,415	-0.18%	-$465,406
210027	WESTERN MARYLAND	-0.76%	-$1,334,559	-0.70%	-$1,229,199	-0.58%	-$1,018,480
210028	ST. MARY	0.43%	$341,012	0.08%	$63,444	0.11%	$87,236
210029	HOPKINS BAYVIEW MED CTR	-0.60%	-$2,327,675	-0.67%	-$2,599,237	-0.66%	-$2,560,442
210030	CHESTERTOWN					2.00%	
210032	UNION HOSPITAL OF CECIL	-0.76%	-$517,840	-0.80%	-$545,095	-0.84%	-$572,349
210033	CARROLL COUNTY	0.24%	$357,121	0.06%	$89,280	0.06%	$89,280
210034	HARBOR	-0.82%	-$1,001,948	-0.70%	-$855,322	-0.73%	-$891,978
210035	CHARLES REGIONAL	-0.22%	-$178,395	-0.16%	-$129,742	-0.18%	-$145,960
210037	EASTON	0.09%	$98,534	0.13%	$142,328	0.15%	$164,224

RY 2021 QBR SCALING		RY21 without ED Wait Times		RY21 without ED Wait Times and with PSI		RY21 without ED Wait Times and with PSI	
HOSPID	HOSPITAL NAME	% Revenue Impact	$ Revenue Impact	% Revenue Impact	$ Revenue Impact	% Revenue Impact	$ Revenue Impact
210038	UMMC MIDTOWN	-0.15%	-$161,556	-0.16%	-$172,326	-0.18%	-$193,867
210039	CALVERT	0.08%	$56,795	-0.18%	-$127,788	-0.15%	-$106,490
210040	NORTHWEST	-0.42%	-$590,308	-0.45%	-$632,473	-0.50%	-$702,748
210043	BALTIMORE WASHINGTON	-0.02%	-$53,283	0.08%	$213,133	0.09%	$239,774
210044	G.B.M.C.	-0.63%	-$1,557,352	-0.69%	-$1,705,671	-0.66%	-$1,631,512
210048	HOWARD COUNTY	-0.44%	-$818,895	-0.55%	-$1,023,618	-0.48%	-$893,340
210049	UPPER CHESAPEAKE HEALTH	-0.52%	-$817,806	-0.60%	-$943,622	-0.52%	-$817,806
210051	DOCTORS COMMUNITY	0.04%	$59,532	0.03%	$44,649	0.00%	$0
210055	LAUREL REGIONAL		$0		$0		$0
210056	GOOD SAMARITAN	-0.52%	-$838,436	-0.61%	-$983,550	-0.66%	-$1,064,169
210057	SHADY GROVE	-0.94%	-$2,674,350	-1.06%	-$3,015,756	-0.95%	-$2,702,800
210060	FT. WASHINGTON	-1.20%	-$260,360	-1.20%	-$260,360	-1.23%	-$266,869
210061	ATLANTIC GENERAL	0.09%	$36,571	0.25%	$101,586	0.19%	$77,205
210062	SOUTHERN MARYLAND	-0.45%	-$788,377	-0.64%	-$1,121,247	-0.67%	-$1,173,806

RY 2021 QBR SCALING		RY21 without ED Wait Times		RY21 without ED Wait Times and with PSI		RY21 without ED Wait Times and with PSI	
HOSPID	HOSPITAL NAME	% Revenue Impact	$ Revenue Impact	% Revenue Impact	$ Revenue Impact	% Revenue Impact	$ Revenue Impact
210063	UM ST. JOSEPH	0.30%	$754,639	0.47%	$1,182,268	0.46%	$1,157,113
210065	HC-GERMANTOWN	0.13%	$91,968	0.16%	$113,191	0.11%	$77,819

maryland
health services
cost review commission

Draft Recommendation on Full Rate Application Policy

November 12, 2020

This document contains the draft staff recommendations for Full Rate Application Policy. Comments for this policy are due by December 9, 2020 to hscrc.financial-methodologies@maryland.gov.

P: 410.764.2605 ● 4160 Patterson Avenue | Baltimore, MD 21215 ● hscrc.maryland.gov

maryland
health services
cost review commission

Table of Contents

maryland
health services
cost review commission

Key Methodology Concepts and Definitions

1. Equivalent Casemix Adjusted Discharges (ECMADS) – ECMADS are a volume statistic that account for the relative costliness of different services and treatments, as not all admissions or visits require the same level of care and resources.

2. Inter-hospital Cost Comparison (ICC) Standard – Each hospital's ICC revenue base is built up from a peer group standard cost, with adjustments for various social goods (e.g. trauma costs, residency costs, uncompensated care mark-up) and costs beyond a hospitals control (e.g. differential labor market costs) that are not included in the peer group standard. The revenue base calculated through the ICC does not include profits. Average costs are reduced by a productivity factor of 2 percent. The term "Relative efficiency" is the difference between a hospital's actual revenue base and the ICC calculated cost base.

3. Total Cost of Care (TCOC) Benchmark Performance – TCOC, an assessment of part A and B Medicare expenditures and all commercial expenditures excluding retail pharmacy, is measured by comparing the per capita cost of care in a hospital's service area to matched national Medicare and Commercial benchmarks on a risk, benefit (commercial only) and demographic adjusted basis

4. Total Cost of Care (TCOC) Savings Tests - The TCOC Model has two principal TCOC tests the State must adhere to and address through the Annual Update Factor Policy, which provides inflation and volume funding in line with population growth to all HSCRC regulated facilities. These tests require the State to achieve prescribed annual TCOC savings, culminating in $300 million in annual savings relative to 2013 by 2023, and they require the State to not exceed national Medicare growth by 1% in any one year and to not exceed national Medicare growth in consecutive years.

Policy Overview

Policy Objective	Policy Solution	Effect on Hospitals	Effect on Payers/Consumers	Effect on Disparities in Healthcare
Per statute, the Commission is required to establish rates for a hospital that are reasonably related to reasonable costs. These determinations are to be done within 150 days of hospitals filing of full rate application and in the TCOC Model should assess a hospitals performance in TCOC.	This policy develops objective standards for determining a rate structure in line with hospital's current service delivery and hospital's bearing on TCOC for its surrounding region.	Staff envisions that this policy will only be utilized to provide revenue commensurate with reasonable cost levels to hospitals that file a full rate application.	By establishing objective standards by which hospitals may quality for additional revenue in a full rate application, this policy ensures that rate enhancements are not provided arbitrarily or needlessly and therefore, along with other Commission efficiency policies, protects consumers from excessive charge levels.	Staff does not anticipate this policy to have any demonstrable effect on disparities in healthcare and notes that many of the risk adjustments in the policy normalize the difference between serving an affluent population and a more impoverished population, e.g. risk adjustments for higher levels of uncompensated care and governmental payer mix in the ICC and risk adjustments for deep poverty and purchasing power parity in the TCOC benchmark analyses.

Recommendations

1) Formally adopt policies to assess cost per case efficiency and total cost of care efficiency to determine the rate structure for hospitals[1] should:
    a. A hospital request a full rate application; or
    b. HSCRC open a full rate review on a hospital;
2) Use the Inter-Hospital Cost Comparison, including its supporting methodologies to compare cost-per-case for the above evaluations;
3) Use Total Cost of Care measures with a geographic attribution to evaluate per capita cost performance for the above evaluations;
4) Allow staff to include in full rate application recommendations the following:
    a. Implementation date for global budget enhancement that considers and comports with the State's TCOC savings tests; and
    b. Hospital specific, mutually agreed upon moratorium on full rate applications that extends beyond the regulatory limits. COMAR 10.37.10.03 allows a hospital to file a full rate application at any time provided there is no pending hospital-instituted case before the Commission or the subject hospital has not obtained permanent rates through the issuance of a Commission rate order within the previous 90 days.

Introduction

Historically, the HSCRC has had a full rate application methodology to assess hospitals' efficiency. The methodology allowed staff to review a hospital's entire regulated rate structure and was employed:

- When a hospital submitted a full rate application for an increased rate structure; or
- When HSCRC staff identified a hospital with high cost inefficiency in order to reduce the hospital's rate structure.

Full rate application assessments have historically been based on a hospital's cost per case efficiency relative to a peer group standard, i.e. a hospitals' revenue base compared to average peer group cost per case with profit removed PLUS a productivity adjustment. However, given the incentives of the TCOC Model and the broader cost accountability hospitals now face, Commissioners directed staff to develop total cost of care metrics that would complement the Commission's cost review methodology in a TCOC Model, and yet still adhere to its statutory

[1] Total Cost of Care Assessments relative to attainment and growth standards performed by payer will be used to modify a hospital's cost per case efficiency analysis.

mandate, per Maryland HEALTH-GENERAL Article, An. Code Ann. § 19-219(a), to assure each purchaser of hospital services that:

(1) The total costs of all hospital services offered by or through a facility are reasonable;
(2) The aggregate rates of the facility are related reasonably to the aggregate costs of the facility; and
(3) The rates are set equitably among all purchasers or classes of purchasers without undue discrimination or preference.

In response to Commissioner directives to incorporate per capita efficiency measures into overall efficiency analyses in line with the TCOC Model, staff have developed an approach that incorporates TCOC performance relative to national benchmarks into the Interhospital Cost Comparison (ICC) methodology. Specifically, staff uses a TCOC algorithm that assesses TCOC performance relative to attainment and growth standards that then modifies a hospital's ICC result, but the extent of this modification is limited to the responsibility or influence hospitals have on TCOC on a statewide basis. Unlike the Integrated Efficiency Policy, which also incorporates TCOC benchmark performance for the purpose of scaling annual inflation, the Full Rate Application Policy does not relatively rank hospitals on a combination of the ICC and TCOC. This is because full rate assessments have always been analyses relative to an absolute standard so that the Commission may reset a hospital's rate structure to be in line with its current services.

This report outlines the ICC and TCOC methodology to be used in the Full Rate Application Policy and the proposed approach to incorporate TCOC metrics into a hospital cost analysis. This report also outlines recommended procedures for administering global budget revenue enhancements secured through the full rate application process.

Future iterations of the Full Rate Application policy will address potential modifications to the current efficiency tools, most notably potential changes in the ICC for peer groupings, special allowances for critical access hospital status and other access considerations, incorporation of national inpatient analyses for academic medical center efficiency, and changes to allowed medical residents costs, all of which may have an effect on hospitals' current efficiency standing.

Background

Efficiency Tools

In November 2015, full rate reviews were suspended to allow development of tools and methodologies consistent with the new All-Payer Model. Regulations were introduced at the September 2017 Commission meeting that updated filing requirements for full rate reviews and the moratorium on full rate reviews was lifted in November of 2017. At the November 2017 Commission meeting, staff put forward a final recommendation to the cost-per-case and per visit analysis - the Inter-hospital Cost Comparison (ICC) methodology, a tool that HSCRC staff proposes to continue using in evaluating hospitals' cost-per-case efficiency. At that time, staff recommended that the Commission defer formal adoption of an efficiency methodology because more work was required to develop additional efficiency tools, namely total cost of care analyses. Also, staff set out, with support of a technical workgroup, to refine the casemix methodology that serves as the basis for the volume statistic used in the ICC to evaluate cost-per-case efficiency, in accordance with Commission priorities.

While staff has utilized the ICC and various total cost of care growth analyses to support Commission proposals to modify hospitals' global revenues,[2] thereby implicitly approving these efficiency tools through adjudication, no formal policies are currently in place. It is important that formal policies reflective of all methodology enhancements are approved by the Commission to provide greater clarity to the industry and to allow for the Commission's methodologies to be more formulaic and uniform in their application.

In terms of the ICC, staff did not materially change the methodology from what was presented to the Commission in November of 2017. The ICC still places hospitals into peer groups based on geography/urbanicity and teaching status and then develops a peer group cost average, devoid of

[2] Anne Arundel Medical Center, Garret Regional Medical Center, UMMC Midtown Hospital, Bayview Hospital

unique hospital cost drivers (e.g. labor market, casemix) and various social goods (e.g. residency programs), to ultimately build up hospital revenue for each hospital based on the calculated peer group cost average. The difference between a hospital's evaluated revenue and its revenue calculated from the ICC cost standard is the measure of a hospital's cost-per-case efficiency.

For these reasons, staff has developed total cost of care "attainment" benchmarks calculations into the final efficiency determinations, inclusive of Commercial performance, that will be discussed in the Overview of the *Total Cost of Care Calculation* section.

Efficiency Implementation

Full Rate Application Process

The current process for full rate applications is outlined in Maryland statute (Health-General Article §19-222 and COMAR 10.37.10.03 et seq). It allows hospitals to a file for a change in its rate schedule that will be effective based on the date that the rate application notice specifies, which must be at least 30 days after the date on which the notice is filed.

The Commission, upon receiving the full rate application, must review and act on the rate application within 150 days after the notice is filed, unless both parties agree to postpone this deadline. If the Commission decides to hold a public hearing, the Commission must set a place and time for the hearing within 65 days of the filing notice. In the event of a hearing, the Commission may suspend the effective date of any proposed change until 30 days after the hearing. Finally, if the Commission fails to complete the review of the rate application within 150 days, the change in rate structure will be effective to the date provided on the rate application notice.

Due to the alacrity with which rate determinations must be made, there are two concerns this policy would like to address, namely the implications rate enhancements have on TCOC savings tests and staff resources. For the former, staff would note three important contextual points:

1) The TCOC contract does not allow for the State to exceed its required TCOC savings tests due to global budget revenue enhancements provided to hospitals that have successfully filed a full rate application

2) Currently, the only time in which global budget revenue on a statewide basis is considered for the State's annual TCOC savings tests is the Annual Update Factor Policy, which provides inflation and volume funding in line with population growth on a State fiscal year basis to comport with the State's various TCOC tests.
3) Staff has to provide a full rate application recommendation for each filed rate application that is not withdrawn, which offers an opportunity for staff to speak to the impact a global budget enhancement will have on TCOC.

In this context, staff recommends the following procedures for the administering a global budget enhancement should Commissioners approve one through the full rate application process:

1) **Provide the revenue increase immediately because there are no potential concerns about total cost of care performance**
2) **Provide revenue increase immediately but reduce inflation across the board for all hospitals due to total cost of care performance**
3) **Provide a portion of revenue increase immediately and provide remaining revenue at semi-annual milestone (Jan or July 1st) when total cost of care can be accounted for**
4) **Delay revenue increase to semi-annual milestone (Jan or July 1st) when total cost of care can be accounted for.**

For the approaches outlined in numbers 3 and 4 to be implemented, the Commission would need to seek a change in statute and COMAR or would need to create an expectation or norm in the hospital industry that if delay of a revenue enhancement is not mutually agreed upon by the Commission and the requesting party, the Commission will pursue option 2. At this time, staff recommend not pursuing a change to statute and COMAR.

Staff are also concerned about the extent of staff resources in reviewing hospitals entire rate structure within 150 days, especially when multiple rate applications are filed in one year, and staff believe there are many opportunities for hospitals to improve solvency in the TCOC Model that do not require a full rate application methodology, e.g., reduce avoidable utilization, improve cost efficiency, and seek less laborious revenue enhancements through the proposed

Integrated Efficiency policy. **As such, staff proposes that each full rate application recommendation specifically address the length of time the subject hospital is precluded from filing another full rate application, which will need to be mutually agreed upon.** Expected suspensions for an individual hospital will be 2-3 years.

Spend Down Process

The HSCRC have also historically used the full rate application methodology to enter into spend down arrangements with hospitals, whereby the Commission opens a rate review and reduces an inefficient hospital's rate structure over a period of years. The modern analog would be to reduce a hospital's permanent global budget revenue base. Because staff is using the proposed Integrated Efficiency Policy to address inefficient outliers, at this time staff do not recommend employing the full rate application methodology to open a review on a hospital in order to reduce a hospital's permanent revenue base.

Overview of Efficiency Calculations

Overview of ICC Calculation

The general steps for the ICC calculation, consistent with prior practices, are as follows:

1. Calculate approved permanent revenue for included volume as measured by ECMADs that will be evaluated in the ICC methodology. This excludes the hospital revenues for one-time temporary adjustments and assessments for funding Medicaid expansion, Medicaid deficits and user fees, such as fees that support the operations of the HSCRC.

2. Permanent revenues are adjusted for social goods (e.g. medical education costs) and for costs that take into consideration factors beyond a hospital's control (e.g. labor market areas as well as markup on costs to cover uncompensated care and payer differential).

3. Hospitals are divided into peer groups for comparison, recognizing that specific adjustments may not fully account for cost differences. The adjusted revenue per ECMAD is compared to other hospitals within the peer group to assess relative adjusted charge levels. The peer groups are:

- Peer Group 1 (Non-Urban Teaching)

- Peer Group 3 (Suburban/Rural Non-Teaching)
- Peer Group 4 (Urban Hospitals)
- Peer Group 5 (Academic Medical Center Virtual, which overlaps with peer group 4)

Future development work may result in different peer groups.

4. There are two additional steps to convert revenues to cost. The first additional adjustment is to remove profits from regulated services from the adjusted revenues (profit strip henceforth). The second is to make a productivity adjustment to the costs. These two adjustments are made to allow for consideration of efficient costs for purposes of rate setting.

5. After applying the calculated peer group cost average to each hospital, all costs that were removed in Step 2 (social goods and factors beyond a hospital's control) are added back to each hospital to build revenue up to the ICC calculated value. The profit strip and productivity adjustment outlined in Step 4 are not added back to a hospital's revenue. The difference between the ICC calculated value and the revenue included in the ICC evaluation, as described in Step 1, is the measure of a hospital's relative efficiency in relation to the ICC Cost Standard.

For a graphic outline of this process, please see Exhibits 1a and 1b.

Exhibit 1a: Overview of ICC Cost Comparison Calculation Determining Peer Group Cost-per-case (Stripping Down)

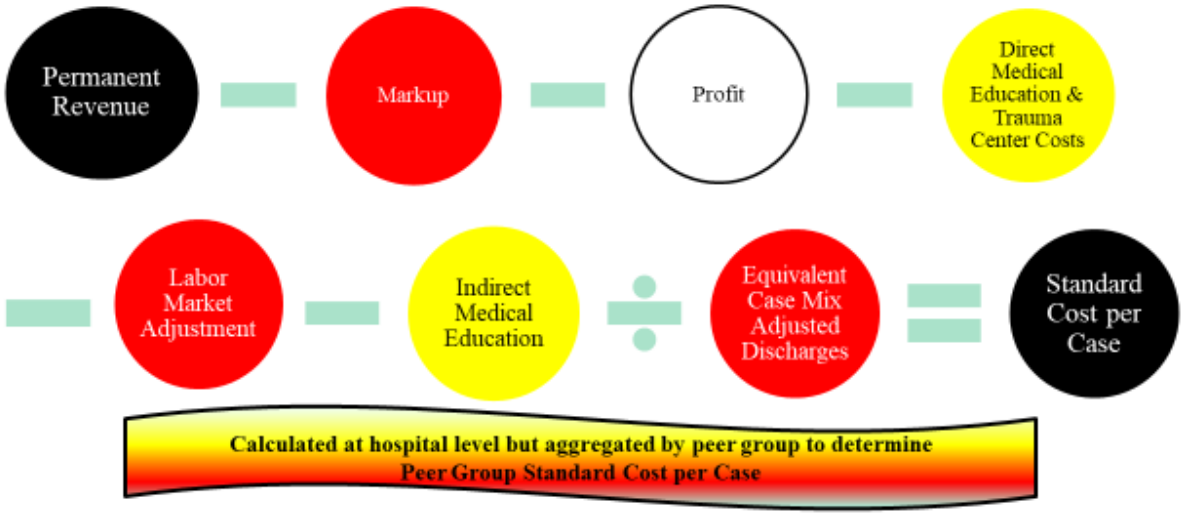
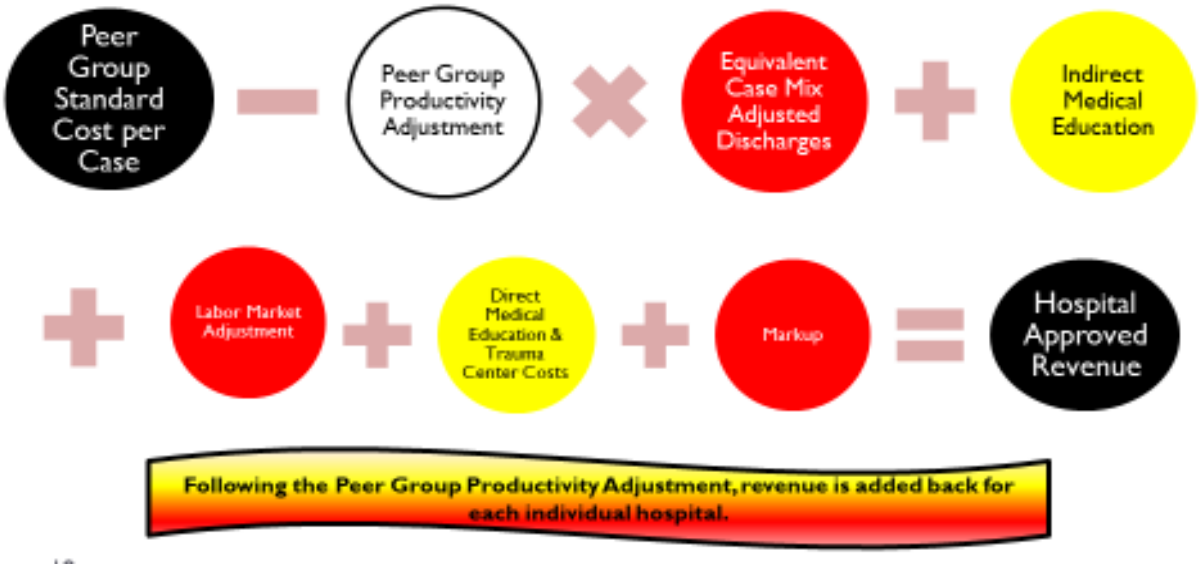


Exhibit 1b: Overview of ICC Cost Comparison Calculation Determining Total Revenue (Building Back Up)



Proposed Changes to ICC Methodology

The staff will now discuss its considerations in proposing changes to the ICC relative to the methodology in effect in 2011.

Step 1- Calculate Permanent Revenue

A. Outpatient Drug Overhead Adjustment

As described in Appendix 1, staff has concluded its work in developing weights on outpatient cases, particularly cases that are subject to cycle billing and are ubiquitous across multiple outpatient settings. Staff did not develop usable weights for oncology and infusion drugs because these costs are highly variable by hospital due to various discounts that only certain hospitals receive, e.g., 340b discounts, and therefore do not offer a reliable efficiency comparison. As such, staff excluded oncology drugs from the cost-per case/visit comparisons

but retained the charges/cost constituting drug overhead, especially since the magnitude of drug overhead allocations are not uniform across hospitals. In the HSCRC rate setting calculations, a significant portion of costs continues to be allocated based on "accumulated costs." This process is allocating too much overhead to outpatient biological drugs, and staff has concluded that this allocation distorts cost comparisons.[3]

Step 2- Adjustments to Revenue

Adjustments to revenue along with changes to each adjustment methodology are proposed by staff below:

A. Medical Education Costs

Consistent with past practices, direct medical education costs, including nurse and other training as well as graduate medical education (GME) costs, are stripped from the permanent revenues using amounts reported in hospitals' annual cost filings. HSCRC policies limited recognition of growth in residencies beginning in 2002, unless increases in residencies were approved through a rate setting process, consistent with Medicare policies that also limit recognition of growth in residencies. For the proposed ICC formulation, the staff is limiting the counts and costs used in the GME calculations based on the number of residents and interns that were included in the 2011 regression. Moreover, staff is capping direct medical education costs for hospitals to no more than the average direct cost per resident statewide, which in the RY 2019 annual filing was $132,803.

Over the years, the calculation of indirect medical education ("IME") costs has been difficult. In 2011, the HSCRC reached a calculation after much debate of an IME allowance per resident of $230,746. Staff believed this figure was too high for those hospitals that are not major academic medical centers with high ratios of residents per bed. As such, staff worked with a contractor to

[3] Medicare adds six percent to average sales price to pay for overhead on physician administered drugs that are not bundled into a visit cost, while non-governmental payers use a somewhat higher overhead figure on top of average sales price in their payment formulation. It is likely that HSCRC will need to change its overhead allocation and rate setting formulation for these biological and cancer drugs in the near term as costs continue to escalate. In the meantime, staff recommends retaining the overhead related revenues/costs in revenues evaluated under ICC charge-per case/visit comparisons.

create a nationally calibrated two-peer-group model to determine major academic indirect medical education costs versus the IME costs per resident of other teaching hospitals.[4] The criteria staff used for defining these two peer groups were as follows:

Exhibit 2 Criteria used to define teaching intensity hospital peer groups

Teaching intensity	Major AMC	Number of beds	IRB ratio
High	Yes	500 or more	0.60 or higher
Moderate to Low	No	Fewer than 500	0.03 to 0.60

Source: AAMC website and HCRIS, 2013-2015.
AAMC = American Association of Medical Colleges; AMC = academic medical center; HCRIS = Hospital Cost Reporting Information System

IRB ratio=Number of Interns and Residents/beds

Using the most recent three years of national hospital data (2013–2015) from the Hospital Cost Reporting Information System[5] and a regression that controlled for the other factors commonly associated with costs, such as hospitals' average patient severity and indigent care burden[6], it was determined that IME costs among high-teaching intensity hospitals are $302,887 and $110,875 for low- and moderate-teaching intensity hospitals combined. These values were inflated from the 2015 analysis to be equivalent to RY 2020 dollars.

[4] Several studies also show that major teaching hospitals (sometimes, though not always, defined as academic medical centers or AMCs) have higher IME costs than non-major teaching hospitals. In its 2007 Report to Congress, MedPAC (2007) reported separate IME cost estimates for AMCs and other teaching hospitals. The results showed a stronger relationship to cost in AMCs than in other teaching hospitals. The IME cost estimate for major AMCs (2.6 percent) was nearly double the estimate for other teaching hospitals (1.5 percent). Nguyen and Sheingold (2011) also reported that the impact of teaching intensity on costs was higher among large urban hospitals than other hospitals. They found that costs per case for large urban hospitals increased 1.4 percent for every 10 percent increase in the ratio of residents to beds, compared with a 1.1 percent increase over all teaching hospitals.
[5] All Medicare-certified institutional providers are required to submit an annual cost report to a Medicare administrative contractor, which serves as the basis for the Hospital Cost Reporting Information System database. The cost report contains provider information such as facility characteristics, utilization data, cost and charges by cost center, in total and for Medicare.
[6] Several variables (including hospitals' case-mix index, wage index, census region, and urban or rural designation) were derived from the IPPS Impact File, which CMS uses to estimate payment impacts of various policy changes in the IPPS proposed and final rules.

Future development work may result in different allowed resident counts, but the methodologies for determining the cost per resident for direct and indirect medical education will remain the same.

Exhibit 3 Estimated IME costs, by hospital peer group, 2013–2015

Teaching intensity	IME coefficient ($)	Standard error	P-value	95 percent confidence interval	
All	230,675***	11,753	0.000	207,639	253,711
High[a]	192,012***	41,873	0.000	109,942	274,082
Moderate and low (omitted group)	110,875***	17,216	0.000	77,132	144,619

Sources: HCRIS, 2013–2015; IPPS Impact File, 2013–2015.

Notes: The results are based on 124 hospitals in the high-teaching intensity group, 510 hospitals in the moderate-teaching intensity group, and 1,006 hospitals in the low-teaching intensity group.

[a] To calculate the marginal effect for these groups, add the estimated IME coefficient with the estimated IME coefficient for the omitted group within a given model. Estimated IME costs for high-teaching intensity hospitals in the two-peer group model is $302,887.

***Significantly different from zero at the .01 level, two-tailed t-test.

HCRIS = Hospital Cost Reporting Information System; IPPS = inpatient prospective payment system.

B. Labor Market Adjustment

In the prior ICC, the labor market adjustment was constructed using an HSCRC wage and salary survey that was based on two weeks of pay and included fringe benefits and contract labor. Each hospital was provided with a unique labor market adjustor that was more indicative of a hospitals ability or decision to pay salaries as opposed to the cost pressures hospitals face in various labor markets, and there were concerns about the consistency and accuracy of reported benefit levels and their impact on the measured wage levels. Staff suspended the wage and salary survey submission for 2017 and intends to replace this survey data with data that better accounts for labor costs hospitals cannot control. One potential solution is to utilize CMS's nationally reported data. Although this national CMS data is available historically, HSCRC staff has not had the opportunity to audit the data and there may be reporting errors. Staff and MHA have stressed the importance of accurate data in the 2017 reports to Medicare.

While staff will continue to use the HSCRC wage and salary survey in its formulation of the ICC until a new labor data source is available, it proposed in the 2018 ICC formulation to eliminate hospital specific adjustments for most hospitals. Specifically, the ICC will use two sets of hospital groupings, with the first set of grouping for Prince George's County and Montgomery County where wages are higher than Maryland's average, and a second grouping of all other hospitals.

C. Capital Cost Adjustment

Previously, there was a capital cost adjustment for differences in capital costs, which was being phased out over time. The time has elapsed, and there is no longer an adjustment for capital cost differences.

D. Disproportionate Share Hospital (DSH) Adjustment

In the 2011 analysis, staff made an adjustment to charges for patients considered to be poor, in consideration of the cost burden that those patients may place on hospitals with higher levels of poor patients. Prior calculations utilized the percentage of Medicaid, charity pay, and self-pay to determine this cost burden.

Medicaid expansion has dramatically increased the number of individuals with coverage. First, the expansion was extended to children; it was then extended to childless adults and those with higher incomes through the ACA expansion, rendering the prior definitions of limited use. Additionally, with increased payments available to physicians for hospital and community-based services and reductions in hospitals' uncompensated care, the financial reasons for potentially continuing this policy are more limited.

To evaluate the need for this adjustment, HSCRC staff compared the case-mix adjusted inpatient charges of potentially poor patients at each hospital (Medicaid, dually-eligible for Medicare and Medicaid, and self-pay and charity) to the case-mix adjusted charges of all other patients. A weighted comparison using the more sensitive severity adjusted APR-DRG's showed a small higher adjusted charge-per-case for Medicaid and dually-eligible persons and a lower charge-per-case for charity and self-pay patients. Staff also conducted various correlation analyses and

found very limited relationships between ICC performance (before and after peer groupings) and various deprivation statistics, e.g. average Area Deprivation Index and share of services attributable to Medicaid, self-pay and charity care, and dual eligible. This leads staff to conclude that this adjustment is no longer needed, although staff does believe that the retention of peer groups may help to adjust for other costs that might not otherwise be well accounted for, such as security costs in inner city settings.

Step 3- Productivity and Cost Adjustments

A. Profits

Staff has retained the same adjustment used to remove profits from the ICC costs, which has been used historically. Consistent with the statutory authority of HSCRC, the Commission does not regulate professional physician services. The adjustment removes profits for regulated services and does not incorporate subsidies or losses for professional physician services.

B. Productivity Adjustment

In prior iterations of the ICC tool, staff recommended using an alternative approach to calculate the productivity adjustment. The excess capacity adjustment, which was formulated based on the declines in patient days (including observation cases >23 hours) from 2010 through 2018 in each peer group as well as the change in outpatient surgery days with a length of stay greater than 1 from 2013 to 2017, produced varying levels of required increased productivity for each peer group that staff believed was a methodological improvement to the historical 2 percent productivity adjustment employed across the board. However, given further review based on the final promulgation of the Major Capital Financing policy that also uses this calculation on a hospital specific basis, staff has determined that the excess capacity calculation should not be used to determine a peer group productivity adjustment due to the 85 percent variable cost factor in place from 2010 to 2014, which made the calculation overestimate the level of productivity expected of each peer group. Thus, staff is recommending returning to the historical 2% productivity adjustment.

Step 4- Building Up a Hospital's Permanent Revenue

A. Volume Adjustment

In iterations of the ICC that relatively rank hospitals for the purpose of identifying efficiency outliers, staff proposed to volume adjust the ICC because there exists an inverse correlation of (.53), whereby reductions in potentially avoidable utilization result in worse ICC performance. For purposes of the Full Rate Application Policy, staff do not support putting forward a volume adjustment for reductions in potentially avoidable utilization, as this policy is intended to establish a rate structure commensurate with current services that are delivered at a reasonable cost level. Since this policy should only be utilized by hospitals that seek a full rate review and will not be applied to all hospitals each year for the purposes of realigning global budget revenue, staff does not believe this recommendation to use current services is at odds with the incentives of the TCOC Model.

Overview of Medicare Total Cost of Care Calculations

Consistent with the Total Cost of Care (TCOC) Model, the cost used in this evaluation will include all types of medical costs (including both hospital and non-hospital services) with the exception of retail pharmacy.

Geographic Attribution Approach

For the purpose of this calculation, a hospital's attributed beneficiaries will be determined based on the PSA-Plus (PSAP) method used for the geographic attribution layer of the Medicare Performance Adjustment attribution approved by the Commission in November 2017. Under this approach, beneficiaries are attributed based on their zip code of residence. Zip codes are attributed to hospitals through three steps:

1. Costs and beneficiaries in zip codes listed as Primary Service Areas (PSAs) in the hospitals' GBR agreements are assigned to the corresponding hospitals. Costs and beneficiaries in zip codes claimed by more than one hospital are allocated according to the hospital's share on equivalent case-mix adjusted discharges (ECMADs) for inpatient and outpatient discharges among hospitals claiming that zip code. ECMADs are calculated from Medicare FFS claims for the Federal fiscal years 2014 and 2015.
2. Zip codes not claimed by any hospital are assigned to the hospital with the plurality of Medicare FFS ECMADs in that zip code, if such zip code does not exceed 30 minutes'

drive time from the hospital's PSA. Plurality is identified by the ECMAD of the hospital's inpatient and outpatient discharges during the attribution period.

3. Zip codes still unassigned will be attributed to the nearest hospital based on drive-time.

Medicare and Commercial Benchmark Methodologies

A Medicare and a Commercial benchmark was calculated for each hospital. Each benchmark was developed in a three-step process. Step 1 was to identify benchmark groups for each Maryland geography. Step 2 was to translate the geographic benchmarks into hospital-level benchmarks. Step 3 was to complete the cost comparison adjusting for beneficiary risk and demographics.

Detailed methodologies and for each payer and additional data files related to the benchmarking process can be found in the Resources section of the Total Cost of Care Workgroup page on the HSCRC's website. The following is an abbreviated overview of these materials.

Step 1: Identify Benchmark Groups for each Maryland Geography

For Medicare benchmarking the geographic unit was a county. Due to limitations of the commercially available national data the benchmark geographic unit was a Metropolitan Statistical Area. (MSA) However, in Maryland where more granular data is available through the Maryland Health Care Commission's Medical Claims Database (MCDB), Maryland counties were reorganized into a group of MSA-like cohorts such that all Maryland counties were included and no non-MD counties were included (this is not the case with standard MSAs).

Potential comparison geographies for each Maryland geography were narrowed based on population density and size. Various demographic factors were then calculated for every geographic unit within this narrowed selection. The demographic values used were intended to capture the health needs and economic situation of the geography. Factors related to health system design like physician supply or provider concentration were explicitly excluded to avoid creating results that were biased by the nature of the delivery system.

A benchmark cohort was then developed for each Maryland geographic units (1 for Medicare and 1 for Commercial). The cohort was established based on selecting the 20 or 50 most

statistically similar national geographies for each Maryland geography. The cohort include 20 members for all Commercial areas and for 5 large Maryland counties for Medicare. (Anne Arundel, Baltimore City, Baltimore County, Montgomery County and Prince George's County). 50 member cohorts were used for Medicare for the remaining Maryland counties.

The cohort sizes were selected to balance the relative similarity of the included national geographies against the need for stable results over time. Medicare and Commercial benchmark cohorts are not identical as the same geographic unit was not used, but there is substantial overlap and the selection metrics were identical except that payer mix was used in the Commercial selection but not in the Medicare selection.

Step 2: Translate Geographic Benchmarks into Hospital benchmarks

As the policy requires measuring performance at a hospital level it was necessary to develop a hospital specific benchmark. This was done in three steps:

A. Calculate Maryland per capital total cost of care for each Maryland hospital based on their Primary Service Area Plus (PSAP). The PSAP is the service area selected by the hospital in its GBR agreement with any shared zip codes split based on ECMAD share and any unassigned zip codes assigned to a hospital based on travel distance. With these modifications the PSAP methodology attributes 100% of Maryland's population to a hospital.

B. Calculate the benchmark by blending the relevant geographic benchmarks based on the distribution of the beneficiaries within the hospital's PSAP. For example, a hospital with 60% of its beneficiaries in geographic unit A and 40% in geographic unit B has a benchmark per capita total cost of care equal to 60% A and 40% B.

C. Adjust the Maryland and benchmark values using the adjustments described in Step 3 below to adjust for differences between the Hospital's PSAP demographics and those in the geographic units in its benchmark.

Step 3: Complete the Cost Comparison adjusting for Beneficiary Risk and Demographics

Per Capital total cost of care is calculated for each Maryland hospital and its benchmark. For Medicare the paid amounts are used and for Commercial the Allowed amount was used. For Medicare paid was utilized as that is the amount for which Maryland is accountable under the Total Cost of Care Model. For Commercial allowed was utilized to remove the impact of

varying cost sharing amounts across different commercial populations. The raw amounts are then adjusted as follows:

A. Medical Education costs were stripped from all values. Medical Education was removed so that Maryland hospitals would not be harmed or helped versus their benchmark cohort based on the level of medical education provided.

B. Risk adjustment is applied. Medicare risk adjustment is applied using Medicare Hierarchical Conditioning Categories (HCCs). Commercial risk adjustment is applied using HHS-HCC Platinum Risk Scores. Both these methodologies are publicly available validated risk adjustment methodologies. Age and sex is incorporated in these methodologies and therefore was not separately addressed.

C. (Commercial Only) Benefit adjustment is applied. While the use of allowed amounts removes the cost impact of member cost shares it does not remove the utilization impact of varying cost shares. Generally, a plan with richer benefits will result in higher utilization. The benefit adjustment is intended to eliminate this impact from the comparison, so Maryland is not harmed or helped because its commercial health plans having poorer or richer benefits. The adjustment resulted in a scaled index for each MSA reflecting the relative richness of benefits. This value is then used to remove the impact of benefit differential from the per capita total cost of care.

D. Demographic Adjustment was applied. A demographic adjustment was developed to better standardize for demographic factors beyond the control of the health system that impact cost of care. The adjustment was calculated separately for Medicare and Commercial but in both cases was based on a regression of the risk and benefit adjusted total per capita cost of care against Median Income and Deep Poverty as reported by zip code in census data. The resulting regression coefficients were used to create a predicted value for each county and the ratio of the actual value to the predicted value was used to adjust the risk and benefit-adjusted per capita total cost of care.

The values calculated can then be used to compare each hospital's per capita total cost of care to their peer average (or other comparison points derived from the benchmark cohort, e.g. 75th percentile) while removing the impact of medical education, beneficiary risk, benefits and demographics from the comparison.

Overview of Total Cost of Care Algorithm

A very important component of the modernization of the full rate application methodology is to incorporate TCOC performance into the overall efficiency assessment in recognition of a

hospital's TCOC responsibility. While Maryland hospitals are collectively held accountable for all TCOC through the Update Factor Policy and through the broader TCOC Model, they are not currently directly responsible for all TCOC. Hospital Services for all Maryland Medicare FFS beneficiaries represent 54 percent of TCOC spend, and hospital Services for all Maryland Commercial Enrollees represent 30 percent of TCOC spend. However, even in the absence of direct individual responsibility a full rate application methodology must account for the most important efficiency outcome in the Model, namely total cost of care performance, but restricting a full rate application methodology to TCOC performance fails to recognize the cost and price per case concerns that underly the State's reimbursement system, which still requires purchasers to pay per service administered at the hospital.

In the future through a potential hospital centered capitated model, whereby all lives in a given region are attributed to a hospital to determine its global budget revenue, hospitals could be directly responsible for all TCOC, but in the interim staff had to wrestle with incorporating TCOC performance to reflect hospital's accountability but not broad scale responsibility. The approach staff is putting forward uses various TCOC attainment and growth standards in a multi-step algorithm, which is expressed in terms of absolute attributed TCOC dollars and weighted by a hospital's statewide share of TCOC responsibility by payer. The output of this algorithm is then used to modify a hospital's ICC cost-per-case efficiency assessed revenue, i.e. the revenue level the ICC methodology yields for an efficient and effective hospital to remain solvent.

Each hospital has a different TCOC standard because each hospital has a slightly different group of national peers, although significant overlap does exist since the TCOC benchmark assessments are based on demography as opposed to hospital comparisons. While the comparison peers for each hospital are different, the standard relative to each hospital's peer group is consistent in the proposed methodology. The exhibit below outlines the standards that affect a hospital's ICC cost-per-case efficiency assessed revenue:

Exhibit 4 TCOC Standards Influence on Rate Application

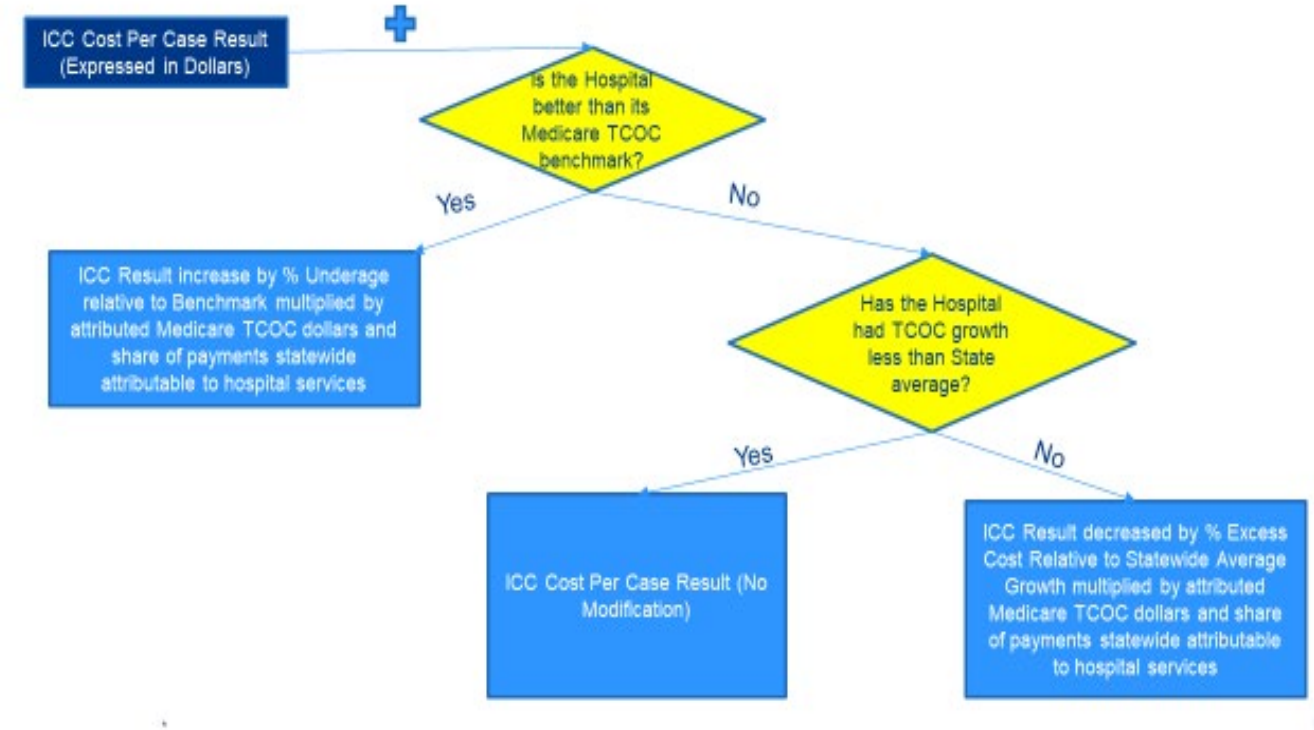
TCOC Performance	Reward/Penalty Modification to ICC
Better than Medicare Benchmark	Reward
Better than Medicare Benchmark AND Average of Top Half of Commercial Performance	Additional Reward
Worse than Medicare Benchmark but better than average State TCOC growth	No action
Worse than Medicare benchmark and worse than average State TCOC growth	Penalty
Worse than Commercial Benchmark	Additional Penalty
All Rewards Capped so that a Hospital Does not Exceed Medicare Benchmark	

Unlike the proposed Integrated Efficiency Policy, which expresses cost-per-case and TCOC efficiency in terms of a percentage relative to a standard and in so doing does not consider the size of TCOC attributed dollars (nor the size of the hospital budget), the Full Rate Application Policy directly acknowledges the extent of TCOC attributed dollars by modifying a hospitals' ICC cost-per-case efficiency assessed revenue by a hospital's performance in TCOC expressed in absolute dollars. In effect, the more care for which a hospital is accountable the greater the size of the reward they can earn.

It is important to note, however, that all additional rewards and penalties are first weighted by a hospital's share of statewide TCOC responsibility, 54 percent for Medicare and 30 percent for commercial. Thus, there is a limit to how much risk a hospital can be rewarded or penalized for. Moreover, TCOC rewards that may modify a hospital's ICC cost-per-case efficiency assessed revenue are capped such that a hospital does not exceed its Medicare benchmark, which staff proposes is not a desirable outcome in a TCOC Model that seeks to retain higher governmental

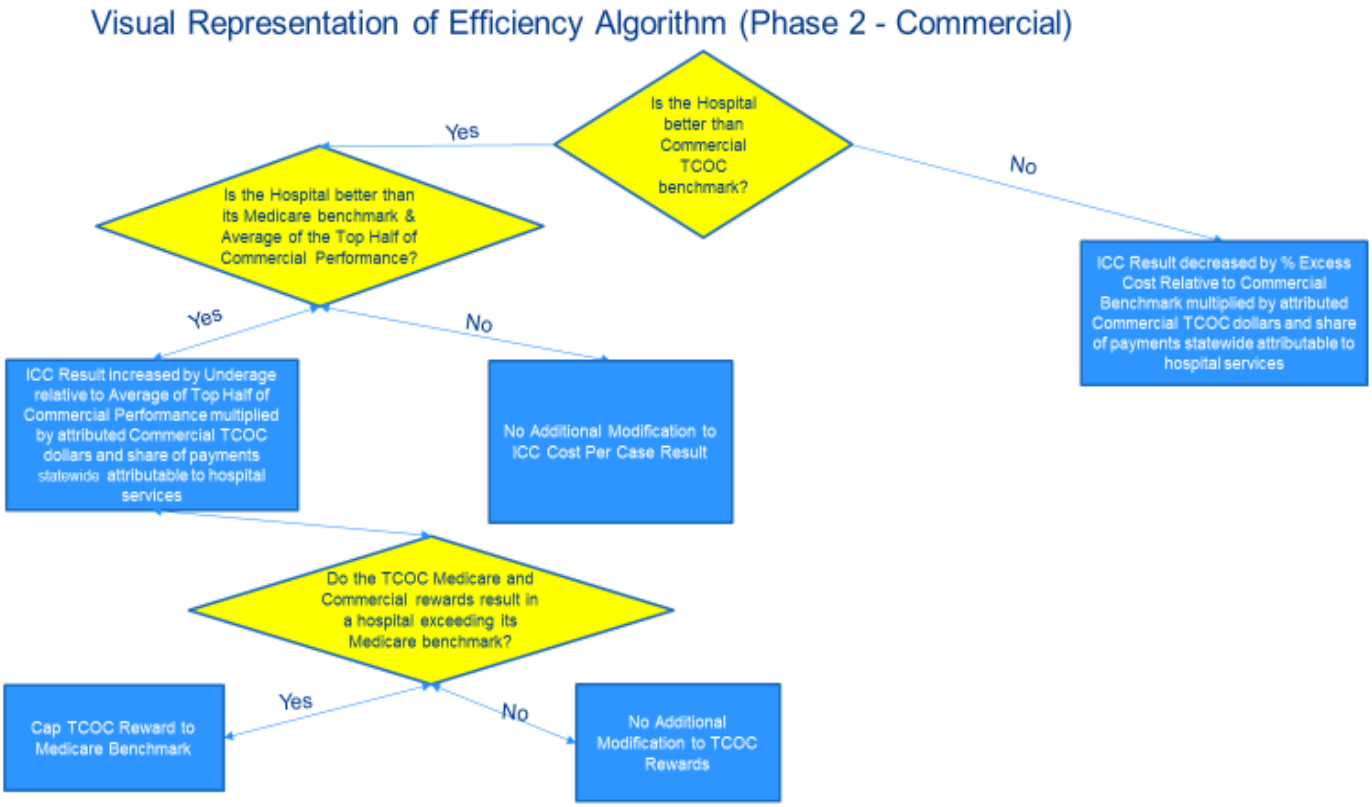
hospital reimbursement in exchange for better TCOC performance.[7] For a complete review of the proposed ICC algorithm, see exhibit 5a + b below:

Exhibit 5a Visual Representation of Efficiency Algorithm (Phase 1 - Medicare)



[7] If a hospital is efficient such that it qualifies for a revenue enhancement through the ICC and there are no TCOC penalties associated with its assessment in the Full Rate Application methodology, the hospital will not have its available funding capped by its relationship to the Medicare benchmark.

0Exhibit 5b Visual Representation of Efficiency Algorithm (Phase 2 - Commercial)



Efficiency Assessment

Examples of TCOC Modifications

To better understand how TCOC affects a hospital rate application, staff have prepared the following examples that cover most of the variations in which TCOC may influence a full rate application determination:

Exhibit 6 Examples of TCOC Influence on Rate Application

ICC and TCOC Scenario	ICC Performance Relative to Standard	2018 Share of Medicare TCOC Spend Attributable to Hospital Services Statewide	2018 Medicare FFS Attributed Dollars (Part A and Part B)	2018 Medicare TCOC Relative to Benchmark	Medicare TCOC Attainment Credit	2013-2018 Medicare TCOC Growth (State Avg = 7.31%)	Excess Medicare TCOC Growth Penalty	2018 Share of Commercial TCOC Spend Attributable to Hospital Services Statewide	2018 Commercial Attributed Dollars	2018 Commercial TCOC Relative to Benchmark	Commercial TCOC Attainment Penalty	2018 Commercial Average of Top Half	Commercial TCOC Attainment Credit	Total TCOC Credit / Penalty	Full Rate Application Recommendation
A	B	C	D	E	F=C*D*E*-1	G	H=(G-7.31%)*C*D*-1	I	J	K	L=I*J*K*-1	M	N=I*J*M*-1	O = Lessor of (F+H+L+N) and E	P($)=B($)+O
Did not meet ICC Standard but better on Medicare & Commercial Benchmark	-4.92% (Reduction of $16.9 M)	53.82%	$379.6 M	-10.14% ($38.5 M under benchmark)	$20.7 M	12.37%	NA	29.90%	$608 M	-36.06%	NA	-29.72%	$54 million	$38.5 M	6.30% (Increase of $21.6 M resulting in $364.8 M)
Met ICC Standard but excess Medicare TCOC growth	4.23% (Increase of $23.7 M)	53.82%	$189.9 M	17.56% ($33.4 M over benchmark)	NA	9.23%	-$1.9 M	29.90%	$180.2 M	-19.96%	NA	-14.15%	NA	-$1.9 M	3.88% (Increase of $21.7 M resulting in $581 M)
Met ICC Standard but excess Medicare TCOC Growth and Poor Commercial TCOC Performance	7.08% (Increase of $4.4 M)	53.82%	$49.8 M	7.79% ($3.8 M over benchmark)	NA	19.96%	-$3.4 M	29.90%	$56.1 M	3.01%	-$0.5 M	13.62%	NA	-$3.9 M	0.87% (Increase of of $0.5 M resulting in $63.3 M)

Results

In the proposed full rate application methodology, there are two hospitals that qualify for a revenue enhancement by strictly looking at the ICC cost-per-case efficiency assessed revenue. These two hospitals, Garret County Memorial Hospital and Mercy Medical Center, would qualify for a 7.08 percent and 4.23 percent revenue enhancement, respectively. Once TCOC performance is factored into the assessment, these same two hospitals would still qualify for a revenue enhancement, albeit reduced from the ICC evaluation (.87 percent and 3.88 percent revenue enhancement, respectively), and two additional hospitals (Suburban Hospital and Fort Washington Medical Center) would also qualify (6.30 percent and 1.99 percent revenue enhancement respectively). This would mean a little over 9 percent of the hospitals evaluated in the proposed Full Rate Application Policy (4 out of 43) would qualify for additional revenue.

Please note these results may change based on future development work to assess the validity of peer groups and the number of allowed medical residents in the ICC methodology. For a list of current results of the proposed methodology, which would only be employed if a hospital filed a rate application, see exhibit 7 below:

Exhibit 7 Results of Full Rate Application Methodology

\Hospital Name	GBR Change Based on ICC Hospital Approved Revenue Before TCOC Analyses % Over (Under)	Full Rate Application Recommendation % Reward (Penalty)	Full Rate Application Recommendation $ Reward (Penalty)
Suburban Hospital	-4.92%	6.30%	$21,605,191
Mercy Medical Center	4.23%	3.88%	$21,723,394
Fort Washington Medical Center	-3.74%	1.99%	$1,043,287
Garrett County Memorial Hospital	7.08%	0.87%	$547,418
Anne Arundel Medical Center	-1.32%	-0.33%	-$2,115,665
Atlantic General Hospital	-2.21%	-2.21%	-$2,482,230
Howard County General Hospital	-4.84%	-2.30%	-$7,129,276
Johns Hopkins Hospital	-4.13%	-4.13%	-$105,423,804
Johns Hopkins Bayview Medical Center	-4.31%	-4.31%	-$30,405,505
MedStar Union Memorial Hospital	-3.87%	-4.45%	-$19,030,439
Holy Cross Hospitals	-4.68%	-4.81%	-$30,580,490
Peninsula Regional Medical Center	-6.45%	-6.93%	-$31,889,324
Greater Baltimore Medical Center	-5.89%	-6.99%	-$33,878,197
MedStar Harbor Hospital Center	-4.95%	-7.17%	-$13,821,502
University of Maryland Baltimore Washington Medical Center	-7.71%	-7.71%	-$34,996,079
Doctors Community Hospital	-13.75%	-8.31%	-$21,633,774
Meritus Medical Center	-8.67%	-8.67%	-$33,350,725
University of Maryland Medical Center	-9.50%	-9.65%	-$155,855,520
MedStar St. Mary's Hospital	-9.68%	-10.46%	-$20,111,933
Upper Chesapeake Medical Center	-9.80%	-10.98%	-$35,403,353
Frederick Memorial Hospital	-11.58%	-11.58%	-$41,788,665
Western Maryland Regional Medical Center	-12.46%	-12.46%	-$42,085,143
University of Maryland St. Joseph Medical Center	-11.25%	-13.06%	-$51,057,070
Prince Georges Hospital Center	-14.77%	-15.53%	-$54,069,894
MedStar Franklin Square Hospital Center	-15.91%	-16.07%	-$91,471,514
University of Maryland Charles Regional Medical Center	-13.15%	-16.76%	-$26,310,182
Shady Grove Adventist Hospital	-18.85%	-17.36%	-$81,345,894

St. Agnes Hospital	-17.50%	-17.50%	-$75,040,130
Carroll Hospital Center	-18.10%	-18.53%	-$43,820,617
Calvert Memorial Hospital	-18.43%	-18.74%	-$28,628,472
Sinai Hospital	-19.32%	-19.32%	-$163,708,443
Harford Memorial Hospital	-19.53%	-19.53%	-$21,137,457
Washington Adventist Hospital	-19.86%	-19.86%	-$59,770,008
MedStar Southern Maryland Hospital Center	-27.18%	-20.24%	-$56,718,214
University of Maryland Shore Medical Center at Easton	-21.58%	-21.58%	-$49,055,473
University of Maryland Shore Medical Center at Dorchester	-21.85%	-21.85%	-$10,092,300
Northwest Hospital Center	-23.00%	-23.00%	-$62,892,767
University of Maryland Medical Center Midtown Campus	-22.30%	-23.34%	-$52,387,844
MedStar Good Samaritan Hospital	-21.66%	-23.79%	-$64,574,989
University of Maryland Rehabilitation & Orthopedic Institute	-22.82%	-24.10%	-$30,736,356
Union Hospital of Cecil County	-23.42%	-25.65%	-$43,227,912
MedStar Montgomery Medical Center	-23.46%	-26.23%	-$47,439,685
University of Maryland Shore Medical Center at Chestertown	-33.88%	-33.88%	-$17,961,536

Future Policy Considerations

While staff believe the efficiency methodologies and implementation proposal are sound, staff acknowledges that more work is needed to refine the ICC and total cost of care analyses. Staff describes below various work streams to improve the efficiency methodologies.

1) Short term – Staff is engaging the University of Maryland to determine a potential special allowance for Chestertown Hospital that recognizes it is a unique model in Maryland most analogous to Medicare's designation of a Critical Access Hospital. An additional adjustment for this status will not exempt Chestertown from efficiency reviews but may reduce the extent of its current inefficiency levels.

2) Medium term - Staff is engaging an outside contractor to review the validity of its ICC peer groups to consider potential modifications and to also consider using a statewide regression analysis to account for additional cost variation that the peer groups ostensibly address, namely costs associated with teaching, urbanicity, and rurality, the latter of which is not currently addressed in the ICC. This task should be completed in January of 2021.

3) Medium term – Staff is also engaging an outside contractor to review the adequacy of current physician supply by specialty by region. This analysis will incorporate out year demand projections, inclusive of Maryland's role as a net exporter of medical

professionals, and will be used to determine the allowed residents in the ICC analysis. This task should be completed in January of 2021.

4) Medium term - Staff will work to include national analyses that were completed for inpatient efficiency evaluations of the State's two major academic medical centers. Staff plans to complement these analyses by incorporating them into an outpatient-only ICC that will effectively evaluate the State's two academics both on a national level for inpatient services and on a Maryland peer group level for outpatient services. Completion of this task is contingent upon submission from Johns Hopkins Hospital and University of Maryland Medical Center, per the agreement put forward in the Innovation Policy and prior Update Factor recommendations. This task should be completed in the Summer of 2021.

5) Long term - Staff will continue the work to quantify the investments hospitals are making in unregulated settings that are in line with the incentives of the Total Cost of Care Model, thereby providing a path for hospitals to acquire credit in the ICC evaluation when retained revenues are used to improve health outcomes.

In terms of total cost of care, staff will focus on maintaining the total cost of care analyses and updating them each year with new data. Additionally, staff will explore developing Medicaid benchmark analyses, but it should be noted that data nationally on Medicaid total cost of care is far less robust than Medicare and commercial data.

Recommendations

1 Formally adopt policies described herein to assess cost per case efficiency and total cost of care efficiency to determine the rate structure for hospitals[8] should:
   a. A hospital request a full rate application; or
   b. HSCRC open a full rate review on a hospital;
2 Use the Inter-Hospital Cost Comparison, including its supporting methodologies to compare cost-per-case for the above evaluations;
3 Use Total Cost of Care measures with a geographic attribution to evaluate per capita cost performance for the above evaluations;
4 Allow staff to include in full rate application recommendations the following:
   a. Implementation date for global budget enhancement that considers and comports with the State's TCOC savings tests; and
   b. Hospital specific, mutually agreed upon moratorium on full rate applications that extends beyond the regulatory limits. COMAR 10.37.10.03 allows a hospital to file a full rate application at any time provided there is no pending hospital-

[8] Total Cost of Care Assessments relative to attainment and growth standards performed by payer will be used to modify a hospital's cost per case efficiency analysis.

instituted case before the Commission or the subject hospital has not obtained permanent rates through the issuance of a Commission rate order within the previous 90 days.

Policy Update Report and Discussion

Staff will present materials at the Commission Meeting.

maryland
health services
cost review commission

TO: HSCRC Commissioners

FROM: HSCRC Staff

DATE: November 12, 2020

RE: Hearing and Meeting Schedule

December 9, 2020 To be determined - 4160 Patterson Avenue
HSCRC/MHCC Conference Room

January 13, 2021 To be determined – 4160 Patterson Avenue
HSCRC/MHCC Conference Room

The Agenda for the Executive and Public Sessions will be available for your review on the Thursday before the Commission meeting on the Commission's website at http://hscrc.maryland.gov/Pages/commission-meetings.aspx.

Post-meeting documents will be available on the Commission's website following the Commission meeting.

maryland
health services
cost review commission

2021 Dates HSCRC Commission Meeting Dates

Public Meetings are Tentatively Scheduled for 1PM

Wednesday, January 13, 2021

Wednesday, February 10, 2021

Wednesday, March 10, 2021

Wednesday, April 14, 2021

Wednesday, May 12, 2021

Wednesday, June 9, 2021

Wednesday, July 14, 2021

Wednesday, August 11, 2021

Thursday, September 9, 2021

Wednesday, October 13, 2021

Wednesday, November 10, 2021

Wednesday, December 08, 2021