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To: Hospital CFOs

Cc: Case Mix Liaisons; Quality Liaisons

From: Alyson Schuster, Associate Director – Performance Measurement

Date: March 2, 2018

Re: Maryland Hospital Acquired Conditions Program Summary for Rate Year 2020

On February 13, 2018, the Commission approved the staff recommendations to modify the Maryland Hospital Acquired Conditions (MHAC) program for Rate Year (RY) 2020. This memo summarizes the changes to the RY 2020 program, which will be applied to the CY 2018 performance period. While most of these are routine annual updates, hospitals should pay particular attention to Recommendations 3 and 4, as these are significant changes to the MHAC methodology. For reference, Appendix A provides the detailed RY 2020 MHAC methodology.

Below are the specific recommendations approved in the RY 2020 MHAC policy:

1. Continue to use established features of the MHAC program in its final year of operation:

    a. 3M Potentially Preventable Complications (PPCs) to measure complications;

    b. Observed/Expected ratios to calculate hospital performance scores, assigning 0-10 points based on statewide threshold and benchmark standards;

    c. Better of improvement and attainment total scores for assessing hospital performance under the program;

    d. A linear preset scale based on the full mathematical score distribution (0-100%) with a hold harmless zone (45-55%);

    e. Combine PPCs that experience a small number of observed cases into an aggregated complication measure (i.e., a combination PPC);

2. Set the maximum penalty at 2% and the maximum reward at 1% of hospital inpatient revenue;

3. Raise the minimum number of discharges required for pay-for-performance evaluation in each Diagnosis Related Group Severity of Illness category from 2 discharges to 30 discharges (NEW!);

4. Exclude low frequency Diagnosis Related Group-PPC pairings from pay-for-performance (NEW!); and

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5. Establish a complications subgroup to the Performance Measurement Work Group that will consider measurement selection and methodological concerns, which will include appropriate risk adjustment, scoring, and scaling, and reasonable performance targets.

1. Minimum Cell Size Increase and Restriction to 80% of APR-DRG-PPC Groupings

For RY2020 there are two significant changes to the methodology, which focus the program on areas of inpatient care in which the majority of potentially preventable complications (PPCs) occur (≥80%). The first change is to only assess complications where there are at least 30 discharges per diagnosis (DRG) and severity of illness (SOI) level (Recommendation 3). The second change is to restrict the payment program to the types of diagnoses and complications that are most prevalent (Recommendation 4).

As PPC occurrence has declined, Maryland has experienced a concurrent statewide increase in DRG-SOI cells with a normative value of zero, which may potentially penalize hospitals for random variation as opposed to poor performance. These changes will partially address this concern; however, these changes are an interim solution to a broader concern about the measurement of complications in Maryland. This broader concern will be addressed over the coming year as a subgroup of clinical and quality measurement experts works to redesign the Maryland complications program (Recommendation 5).

For RY 2020 the payment program includes the diagnoses and complication (DRG-PPC) pairings where 86.7% of complications occurred in the base period (state fiscal year (FY) 2017). The MHAC base period workbook provides a list of the included and excluded DRG-PPC pairings. For additional details on how the pairings were selected, please see Appendix A.

2. Scaling Methodology and Revenue At-Risk

The preset scale for RY 2020 maintains the RY 2019 scale, which uses a full distribution of potential scores (scale of 0-100%), with a hold harmless zone between 45% and 55%. The maximum reward will remain at 1%, and the maximum penalty will remain at 2%. The preset scale is included as Appendix B of this memorandum.

3. Base and Performance Periods for RY 2020 MHAC Program

For RY 2020, the base period will be July 2016 to June 2017 (FY 2017), and the performance period will be calendar year (CY) 2018. An excel workbook with base period data and other program details (i.e., benchmarks, normative values, hospital PPC exclusions, DRG-PPC pairings) is being distributed by email with this memo and will be posted on the CRISP Reporting Services portal.

4. Other PPC Changes

The following changes have been made to the PPCs and hospitals included in the payment program:

I. 3M has removed three additional PPCs with clinical concerns from Version 35 of the PPC Grouper. The newly removed PPCs (which were suspended from payment program in RY 2019 by HSCRC) include PPC 57 (Obstetric lacerations & other trauma without instrumentation), PPC 58 (Obstetric lacerations & other trauma with instrumentation), and PPC 62 (Delivery with Complications).

II. Based on 3M recommendation, PPC 39 (Reopening Surgical Site) is re-included in the RY 2020 payment program in Tier 2. Previously in RY 2019, PPC 39 was suspended based on clinical concerns that 3M has addressed.

III. Starting in RY 2018, PPCs with low rates were combined into combination PPCs, which have changed annually. In RY 2020, there will be three combination PPCs:

   a) Combo 1 (PPC 67): General Combination: PPCs 25, 26, 63, 64

   b) Combo 2 (PPC 68): Gastrointestinal Complications: PPCs 17, 18

   c) Combo 3 (PPC 71): Infection-related Complications: PPCs 34, 54, 66

   Combo 3 is the only new combination for RY 2020. For the combination PPCs, the hospital-level exclusion criteria is applied at the combination PPC level and not at the individual PPC level. However, each PPC within a combo is counted individually when calculating the total number of PPCs per discharge for purposes of removing catastrophic cases with >6 PPCs.

Appendix C contains the list of RY 2020 payment program PPCs, the tier, and the updated benchmarks and thresholds using the FY2017 base period data. Appendix D provides the base year attainment-only scores, which indicate what a hospital's score would be if it experiences no improvement in CY 2018.

5. **Grouper Version and Software Revision**
PPC and APR-DRG software version 35 (CGS: 2017.3.3) will be used for the RY 2020 base period and performance period.

6. MHAC Program Reporting though CRISP Reporting Services (CRS) Portal
All MHAC summary reports and case-level data will continue to be made available to hospitals/health systems through the CRS portal. Most hospital contacts may access the summary report, and a more limited number of hospital contacts may access the case-level detail that contains PHI. For access to the CRS portal, contact support@crisphealth.org.

If you have any questions, please email hscrc.quality@maryland.gov or call Dr. Alyson Schuster at 410-764-2673.

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 the base year 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 APR-DRG category and SOI level by dividing the observed number of PPCs by the total number of admissions. The PPC norm for a single APR-DRG SOI level is calculated as follows:

Let:

N = norm
P = Number of discharges with one or more PPCs
D = Number of "at-risk" discharges
i = An APR-DRG category and SOI 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 APR-DRG category and its four SOI levels.

Consider the following example for an individual APR-DRG category.

Table 1 Expected Value Computation Example for one APR-DRG

A Severity of illness Level	B At-risk Discharges	C Observed Discharges with PPCs	D PPCs per discharge (unadjusted PPC Rate) = (C / B)	E Normative PPCs per discharge (Calculated from Normative Population)	F Expected # of PPCs = (B x E)	G Observed: Expected Ratio = (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 APR-DRG 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 APR-DRG category is displayed in column E. The expected number of PPCs for each SOI 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 APR DRG category is the expected number of PPCs for the SOI 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
If all 65 PPCs for each APR-DRG SOI category were included, there would be approximately 80,000 APR-DRG SOI and PPC pairings under which a statewide normative value would theoretically be calculated. There are four general criteria under which PPCs are excluded from consideration under the current MHAC program: Categorical Exclusions, Clinical Exclusions,

Monitoring-Only PPCs, and PPCs not included in the APR-DRG-PPC pairings where 80% of PPCs occur. These exclusions ensure that the PPCs in the MHAC program are clinically valid, statistically reliable, and aligned with focused efforts to reduce complications.

Categorical 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 <1 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 30 total.
- Discharge has a diagnosis of palliative care (this exclusion will be removed in the future once POA status is available for palliative care in the base period); 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:
- The number of cases at-risk is less than 10; and
- The expected number of PPCs is less than 1.

PPC exclusion criteria is only applied to the base period and not 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 base period workbook and monthly summary workbooks provide the excluded PPCs for each hospital.

Clinical Exclusions
Throughout the life of the MHAC program, 3M has continued to evaluate the clinical validity of the Potentially Preventable Complications. As certain PPCs have been deemed clinically invalid, 3M has removed from the grouper or recommended we remove pending further development. To date, the removed PPCs are:
- 12 – Cardiac Arrhythmia
- 22 – Urinary Tract Infection (split into PPC 65 and 66)24 – Renal Failure without Dialysis
- 57 – OB Lacerations & Other Trauma Without Instrumentation
- 58 – OB Lacerations & Other Trauma With Instrumentation
- 62 – Delivery with Complications

Monitoring-Only PPCs
PPCs with lower reliability or for which no hospital meets PPC requirements (>10 at-risk, >1 expected) are in monitoring-only status and will not be scored for payment program purposes. Monitoring-only status is determined through an extensive stakeholder process involving 3M, MHA, the HSCRC, and the Performance Measurement Work Group. For RY 2020, the PPCs in monitoring-only status are:
- 2 – Extreme CNS Complications

- 15 – Peripheral Vascular Complications (except Venous Thrombosis)
- 20 – Other Gastrointestinal Complications without Transfusion or Significant Bleeding
- 29 – Poisonings except from Anesthesia
- 33 – Cellulitis
- *36 – Acute Mental Health Changes

* PPC 36 is in monitoring-only status due to no hospital meeting the minimum threshold for its inclusion.

80% APR-DRG PPC Inclusion

New in RY 2020, APR-DRG and PPC pairings will be included in the MHAC payment policy if they are pairings under which 80% of the PPCs occur. As an abbreviated example, take the figure below:

	APR-DRG	PPC	Sorted by Observed Counts (highest to lowest)	% of Total Observed PPCs	Cumulative Percent
	A	B	C	D	E
1	720	14	45	23%	23%
2	181	39	36	18%	41%
3	540	59	25	13%	53%
4	194	14	22	11%	64%
5	720	21	21	11%	75%
6	230	42	11	6%	80%
7	230	9	11	6%	86%
8	540	60	9	5%	90%
9	560	59	9	5%	95%
10	166	8	6	3%	98%
11	190	52	3	2%	99%
12	201	6	2	1%	100%
		ALL APR-DRG-PPC Pairings	**200**		

This figure presents 12 rows of APR-DRG-PPC pairings. In reality, there are many more potential pairings, given the granularity of the MHAC program methodology, but for this example, assume there are just 12. To focus improvement upon APR-DRG-PPC pairings under which 80% of PPCs occur:

1. Calculate Observed PPC counts by APR-DRG-PPC pairing in the Base Period (Presented in Column C).
2. Sort Observed PPC counts from highest to lowest, and sum the total Observed PPCs. (the sum of Observed PPCs in Column C in this example is 200).

3. For each APR-DRG-PPC pairing, divide the Observed PPC count / the Total Observed PPCs to calculate a % of Total Observed PPCs (Column D).
   a. As an example, 45 Observed PPCs / 200 Total Observed PPCs = 23%.
4. Sum the percentages in Column D to calculate a cumulative percent (Column E)
5. Using the cumulative percentages in Column E, locate the pairing where **at least** 80% of PPCs occur. In this example, this is row 6, APR-DRG-PPC pairing 230-42. However, in Row 6, 11 PPCs occurred. The methodology will include all APR-DRG-PPC pairings where 11 PPCs occurred, meaning that Row 7 (230-9) will **also** be included (even though that increases the 80% included PPCs to 86%). Effectively, this step further ensures that only APR-DRG-PPC pairings with very low occurrence are excluded from the MHAC program.

Combination PPCs

Some PPCs have low occurrence, and may be statistically unreliable. However, given their clinical importance, staff and stakeholders believe that they should remain in the payment policy. These PPCs are included (in Tier 2) as Combination PPCs.

The RY 2020 Combination PPCs are:

Combination	3M PPC Number	Combo PPC Number	PPC Name
Combo 1	25	67	Renal Failure with Dialysis
Combo 1	26		Diabetic Ketoacidosis & Coma
Combo 1	63		Post-Operative Respiratory Failure with Tracheostomy
Combo 1	64		Other In-Hospital Adverse Events
Combo 2	17	68	Major Gastrointestinal Complications without Transfusion or Significant Bleeding
Combo 2	18		Major Gastrointestinal Complications with Transfusion or Significant Bleeding
NEW **Combo 3**	34	71	Moderate Infections
NEW **Combo 3**	54		Infections due to Central Venous Catheters
NEW **Combo 3**	66		Catheter Associated Urinary Tract Infection

Previous combination PPCs 69 (55, 56) and 70 (57, 58) are no longer included in the MHAC program, as PPCs 55-56 are in Monitoring Only, and PPCs 57-58 have been discontinued.

Hospital Exclusions

Starting in RY 2019, hospitals are excluded from the MHAC payment program if they do not meet the minimum inclusion criteria of at least 10 at-risk and 1 expected for one non-serious event PPC. For RY 2020, this exclusion only applied to McCready.

Benchmarks and Thresholds

For each PPC, a threshold and benchmark value is calculated using the base period data. For

each PPC, the threshold value is statewide average of 1. The benchmark is the weighted mean of the O:E ratio for top performing hospitals that account for at least 25% of all discharges. This benchmark calculation is done to avoid the phenomenon of small hospitals driving the benchmark calculation.

One category of PPCs is calculated differently from these benchmark and threshold calculations. There are five PPCs which are considered **serious reportable events**, a designation meaning that they should never occur. For these serious reportable events, the threshold and benchmark are both 0, meaning that hospitals will either receive 10 points per PPC if they do not occur, or 0 points per PPC if they do. The serious reportable event PPCs for the base and performance period are the following:
- PPC 30 – Poisonings due to Anesthesia
- PPC 31 – Decubitus Ulcer
- PPC 32 – Transfusion Incompatibility Reaction
- PPC 45 – Post-procedure Foreign Bodies
- PPC 46 – Post-Operative Substance Reaction and Non-OR Procedure for Foreign Body

Attainment and Improvement Points
For each hospital, PPC performance is evaluated based on the higher of "Attainment Points" achieved in the performance period, or "Improvement Points" earned by comparing a hospital's PPC performance period results to the base period.

Attainment Points (possible points 0-10)
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 10 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 = [9 * ((Hospital's performance period score - Threshold)/ (Benchmark –Threshold))] + 0.5

Improvement Points (possible points 0-9)
If the PPC ratio for the performance period is greater than the base period, the hospital scores zero points for that PPC for improvement.

If the PPC ratio for the performance period is less than or equal to the Benchmark, the hospital scores 9 points for that PPC for improvement. However, in this case an attainment score of 10 will be higher than the improvement score, and the attainment score will therefore be used to calculate the final score.

If the PPC ratio is between historical performance and Benchmark, the hospital scores partial

points for improvement. The formula to calculate the Improvement points is as follows:
- Improvement Points = [10 * ((Hospital performance period score -Hospital baseline period score)/(Benchmark - Hospital baseline period score))] - 0.5

Calculation of Hospital Overall MHAC Score
To calculate the final score for each hospital, the final points (better of attainment or improvement) for each PPC in tier 1 are added up and divided by the total possible tier 1 points to calculate a percent score tier 1. This calculation is repeated for tier 2. The PPCs are grouped in tiers so that PPCs that are high-cost and high-volume have opportunity to improve, and that national priority PPCs can be weighted more heavily. The total possible points for each PPC is 10, and hospitals may have different total possible points depending upon which PPCs, if any, are excluded for that hospital (see exclusion criteria above).

A list of excluded PPCs by hospital is provided in the MHAC base year workbook and with the monthly and quarterly PPC summary reports.

The final score is then calculated using the following formula:
Final Score = ((Score Tier 1 * 1) + (Score Tier 2 * 0.5)) / ((Denominator Tier 1 * 1) + (Denominator Tier 2 * 0.5))

Rounding
For the purposes of calculating scores, the benchmarks and O: E ratios are rounded to 4 decimal places. The attainment and improvement points are rounded to the nearest whole number. The tier percentages and final score for each hospital is rounded to 2 decimal places.

**Financial Impact of MHAC Performance (Scaling)**
In RY 2020 the Commission approved the staff recommendation to maintain the RY 2019 scale that uses the full range of scores 0-100% with a hold harmless zone between 45-55%. Thus, the maximum penalty of 2% is for a score of 0%; and the max reward of 1% is for a score of 100%.

The next page provides a diagram summarizing the RY 2020 MHAC methodology.

RY 2020 MHAC Methodology Diagram

Potentially Preventable Complication Measures

RY 2020: Restrict to diagnosis and PPC pairings where >80% of complications occurred in base.

Tier 1
100% Weight
16 PPCs

Tier 2
50% Weight
30 PPCs
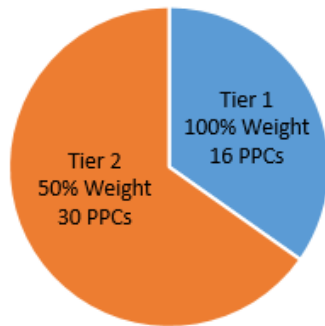
Global Exclusions:
- Palliative care
- Discharges >6 PPCs
- Apr-DRG SOI cells with less than 30 at-risk discharges

Hospital PPC Exclusions:
- <10 at-risk discharges
- <1 expected PPC

Case-Mix Adjustment and Standardized Scores

PPC scores (0-10 points) calculated using observed to expected ratios.

Expected calculated by applying statewide average PPC rates by APR-DRG-SOI to hospitals case-mix (i.e., indirect standardization).

Threshold: State Median (O/E=1)

Benchmark: Top performing hospitals w/ 25% discharges

Attainment Points:

Threshold   Benchmark

0   2   4   6   8   10

Improvement Points:

Hist. Perf   Benchmark

0   2   4   6   8   10
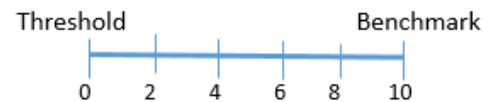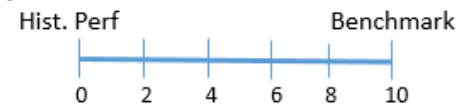
Final Points are Better of Improvement or Attainment

Hospital MHAC Score & Revenue Adjustments

Hospital MHAC Score is Sum of Earned Points / Possible Points with Tier Weights Applied

Scores Range from 0-100%, with revenue neutral zone 45-55%

Max Penalty 2% & Reward +1%

Abbreviated Preset Scale	MHAC Score	Financial Adjustment
Max Penalty	0%	-2.00%
	10%	-1.56%
	20%	-1.11%
	30%	-0.67%
	40%	-0.22%
Penalty/Reward Cut Point (Range)	45-55%	0.00%
	60%	0.11%
	70%	0.33%
	80%	0.56%
	90%	0.78%
Max Reward	100%	1.00%

Appendix B: RY 2020 MHAC Revenue Adjustment Scale with Hold Harmless Zone

Below is a concise version of the RY 2020 MHAC scale, which ranges from 0% to 100% and includes a revenue neutral zone between 45% and 55%. A full scale with all percentage point revenue adjustments is included in the MHAC Base workbook and monthly Summary reports.

Final MHAC Score	Revenue Adjustment
0%	-2.00%
5%	-1.78%
10%	-1.56%
15%	-1.33%
20%	-1.11%
25%	-0.89%
30%	-0.67%
35%	-0.44%
40%	-0.22%
45%	0.00%
50%	0.00%
55%	0.00%
60%	0.11%
65%	0.22%
70%	0.33%
75%	0.44%
80%	0.56%
85%	0.67%
90%	0.78%
95%	0.89%
100%	1.00%

Penalty threshold:	45%
Reward Threshold	55%

Appendix C: RY 2020 MHAC Payment Program PPCs, Benchmarks, and Tiers

PPC Number	PPC Description	Threshold	Benchmark	Tier
1	Stroke & Intracranial Hemorrhage	1	0.4149	2
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation	1	0.5468	1
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation	1	0.562	1
5	Pneumonia & Other Lung Infections	1	0.6289	1
6	Aspiration Pneumonia	1	0.4279	1
7	Pulmonary Embolism	1	0.1437	1
8	Other Pulmonary Complications	1	0.2251	2
9	Shock	1	0.4131	1
10	Congestive Heart Failure	1	0.1355	2
11	Acute Myocardial Infarction	1	0.2903	2
13	Other Cardiac Complications	1	0.1521	2
14	Ventricular Fibrillation/Cardiac Arrest	1	0.5531	1
16	Venous Thrombosis	1	0.1772	1
19	Major Liver Complications	1	0	2
21	Clostridium Difficile Colitis	1	0.4224	2
23	GU Complications Except UTI	1	0	2
27	Post-Hemorrhagic & Other Acute Anemia with Transfusion	1	0.2656	1
28	In-Hospital Trauma and Fractures	1	0	2
30	Poisonings due to Anesthesia	0	0	2
31	Decubitus Ulcer	0	0	2
32	Transfusion Incompatibility Reaction	0	0	2
35	Septicemia & Severe Infections	1	0.4455	1
36	Acute Mental Health Changes			2
37	Post-Operative Infection & Deep Wound Disruption Without Procedure	1	0.2917	1
38	Post-Operative Wound Infection & Deep Wound Disruption with Procedure	1	0	1
39	Reopening Surgical Site	1	0.2615	2
40	Post-Operative Hemorrhage & Hematoma without Hemorrhage Control Procedure or I&D Proc	1	0.5496	1
41	Post-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or I&D Proc	1	0.1541	1
42	Accidental Puncture/Laceration During Invasive Procedure	1	0.385	1
44	Other Surgical Complication - Mod	1	0	2
45	Post-procedure Foreign Bodies	0	0	2
46	Post-Operative Substance Reaction & Non-O.R. Procedure for Foreign Body	0	0	2
47	Encephalopathy	1	0.0937	2
48	Other Complications of Medical Care	1	0.0901	2
49	Iatrogenic Pneumothrax	1	0.0757	1
50	Mechanical Complication of Device, Implant & Graft	1	0.4275	2
51	Gastrointestinal Ostomy Complications	1	0.2339	2

PPC Number	PPC Description	Threshold	Benchmark	Tier
52	Inflammation & Other Complications of Devices, Implants or Grafts Except Vascular Infection	1	0.419	2
53	Infection, Inflammation & Clotting Complications of Peripheral Vascular Catheters & Infusions	1	0	2
59	Medical & Anesthesia Obstetric Complications	1	0.2625	2
60	Major Puerperal Infection and Other Major Obstetric Complications	1	0.1321	2
61	Other Complications of Obstetrical Surgical & Perineal Wounds	1	0.1592	2
65	Urinary Tract Infection without Catheter	1	0	2
67	Combined PPC 1 (PPC 25, 26, 63, 64)	1	0.0659	2
68	Combined PPC 2 (PPC 17, 18)	1	0.2268	2
71	Combined PPC 3 (PPC 34, 54, 66)	1	0.1234	2

Appendix D: RY 2020 MHAC Base Period Attainment Scores

HOSPITAL ID	HOSPITAL NAME	TOTAL NUMBER OF PPCs	FINAL POINTS TIER 1	DENOMINATOR TIER 1	TOTAL NUMBER OF PPCs TIER1	FINAL POINTS TIER 2	DENOMINATOR TIER 2	TOTAL NUMBER OF PPCs TIER2	FINAL WEIGHTED POINTS	TOTAL DENOMINATOR	FINAL WEIGHTED SCORE
210001	Meritus	39	53	150	15	98	240	24	102	270	0.38
210002	UMMC	43	36	160	16	121	270	27	96.5	295	0.33
210003	UM-PGHC	32	28	120	12	128	200	20	92	220	0.42
210004	Holy Cross	42	68	150	15	170	270	27	153	285	0.54
210005	Frederick	39	38	150	15	88	240	24	82	270	0.3
210006	UM-Harford	20	42	90	9	75	110	11	79.5	145	0.55
210008	Mercy	37	40	160	16	116	210	21	98	265	0.37
210009	Johns Hopkins	45	42	160	16	87	290	29	85.5	305	0.28
210010	UM-Dorchester	11	30	50	5	55	60	6	57.5	80	0.72
210011	St. Agnes	42	82	150	15	165	270	27	164.5	285	0.58
210012	Sinai	42	32	150	15	102	270	27	83	285	0.29
210013	Bon Secours	18	13	70	7	68	110	11	47	125	0.38
210015	MedStar Fr Square	43	50	150	15	103	280	28	101.5	290	0.35
210016	Washington Adventist	39	43	150	15	87	240	24	86.5	270	0.32
210017	Garrett	9	19	30	3	51	60	6	44.5	60	0.74
210018	MedStar Montgomery	30	62	130	13	116	170	17	120	215	0.56
210019	Peninsula	43	53	150	15	121	280	28	113.5	290	0.39
210022	Suburban	35	43	150	15	89	200	20	87.5	250	0.35
210023	Anne Arundel	42	87	160	16	107	260	26	140.5	290	0.48
210024	MedStar Union Mem	36	46	150	15	84	210	21	88	255	0.35
210027	Western Maryland	36	34	140	14	121	220	22	94.5	250	0.38
210028	MedStar St. Mary's	28	93	130	13	93	150	15	139.5	205	0.68
210029	JH Bayview	41	73	150	15	97	260	26	121.5	280	0.43
210030	UM-Chestertown	11	15	50	5	60	60	6	45	80	0.56
210032	Union of Cecil	26	19	130	13	104	130	13	71	195	0.36
210033	Carroll	31	14	140	14	65	170	17	46.5	225	0.21
210034	MedStar Harbor	30	46	130	13	92	170	17	92	215	0.43
210035	UM-Charles Regional	29	55	140	14	97	150	15	103.5	215	0.48
210037	UM-Easton	28	52	130	13	66	150	15	85	205	0.41
210038	UMMC Midtown	26	58	110	11	84	150	15	100	185	0.54
210039	Calvert	22	38	90	9	67	130	13	71.5	155	0.46
210040	Northwest	29	67	140	14	95	150	15	114.5	215	0.53
210043	UM-BWMC	41	50	150	15	116	260	26	108	280	0.39
210044	GBMC	37	33	150	15	54	220	22	60	260	0.23
210048	Howard County	40	13	140	14	113	260	26	69.5	270	0.26
210049	UM-Upper Chesapeake	36	104	150	15	99	210	21	153.5	255	0.6
210051	Doctors	34	43	150	15	117	190	19	101.5	245	0.41
210055	UM-Laurel	24	28	100	10	81	140	14	68.5	170	0.4
210056	MedStar Good Sam	34	47	140	14	101	200	20	97.5	240	0.41
210057	Shady Grove	40	45	150	15	119	250	25	104.5	275	0.38
210058	UMROI	23	9	80	8	98	150	15	58	155	0.37
210060	Ft. Washington	15	32	70	7	72	80	8	68	110	0.62
210061	Atlantic General	22	30	100	10	87	120	12	73.5	160	0.46
210062	MedStar Southern MD	31	10	140	14	62	170	17	41	225	0.18
210063	UM-St. Joe	40	53	150	15	151	250	25	128.5	275	0.47
210064	Levindale	14	2	50	5	40	90	9	22	95	0.23
210065	HC-Germantown	25	34	110	11	98	140	14	83	180	0.46