

To: Hospital CFOs  
Cc: Hospital Quality Liaisons, Case-Mix Liaisons  
From: HSCRC Quality Team  
Date: March 20, 2026  
Re: Final Rate Year 2028 Maryland Hospital Acquired Conditions (MHAC) Policy Recommendation

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This memo summarizes the Maryland Hospital Acquired Conditions (MHAC) Program that will impact hospital rates in Rate Year (RY) 2028.

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## Introduction

On February 11, 2026, the Commission approved staff recommendations for updating the MHAC Program for Rate Year (RY) 2028.

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The approved RY2028 recommendations are as follows:

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1. Use Potentially Preventable Complication (PPC) composite and all-payer AHRQ Patient Safety Indicator 90 to assess hospital acquired complications.
2. Assess PPC performance using more than one year of data for small hospitals (i.e., less than 21,500 at-risk discharges and/or 22 expected PPCs).
3. Assess hospital performance based on statewide attainment standards.
4. Set revenue at-risk at a maximum penalty at 2 percent and maximum reward at 2 percent using the average Maryland hospital score as the cut point for start of rewards.
5. Going forward, consider other candidate measures/measure sets that may be important for assessing hospital avoidable, harmful complications and appropriate for use in a quality program for revenue adjustments to Maryland hospital global budgets (HGB).

Under the new AHEAD model, which began on January 1, 2026, the hospitals will be moving to the CMS Hospital quality programs for RY 2029 or RY 2030. In vetting the RY 2028 MHAC Policy, PMWG stakeholders discussed the need to begin aligning the MHAC Program with the CMS national Hospital Acquired Conditions Reduction Program (HACRP); thus, the all-payer PSI 90 composite measure was

adopted for use in the RY 2028 Program. Furthermore, stakeholders discussed timeline options for transitioning fully to the CMS HACRP for Medicare FFS global budgets. The HSCRC will continue to implement a state MHAC Program that will be applicable to hospital global budgets for beneficiaries of all other payers (i.e., non-Medicare FFS). The state quality programs will align with the CMS policies to reduce administrative burden, but maintain the ability to address statewide priorities, including areas of poor performance and/or quality concerns for Medicaid or commercial payers.

With regard to discussions with stakeholders about the measures for RY 2028, the following summarizes the issues.

- Maintain the use of RY 2027 PPCs given all-payer focus and broader applicability (i.e., medical and surgical patients included). Continue to use the new composite measure that offers a superior scoring approach, resulting in hospital specific scores with significantly increased content validity and reliability and better distinguishes hospital performance such that all hospitals are held accountable for PPCs that are most germane to the types of patients and services they provide.
- Add the all-payer AHRQ PSI composite to the MHAC program, since the Commission has already approved of its removal from QBR. The PSI composite as previously used in QBR is appropriate as it provides additional incentive weight for clinically important areas such as sepsis and adds areas of focus not included in the payment PPCs such as pressure ulcers. The PSI measure will be weighted proportionally to its weight in the HACRP program (i.e., 1/6th of the total MHAC score), thus limiting the impact of the PSI measure on MHAC scores but ensuring hospitals focus on this CMS measure.
- Maintain the NHSN HAI measures in the QBR program but do not add to the MHAC program at this time to avoid duplication and given measurement concerns related to these surveillance measures.
- Re-convene the Clinical Adverse Events Measures subgroup in Spring of 2026 to assess available complication measures for use in a state program for non-Medicare payers. Assessment should consider alignment with CMS and the state's investments in PPCs, as well as opportunities to focus on non-Medicare priority areas such as maternal complications, digital measures, or areas of poor performance.

## Potentially Preventable Complications (PPCs) in Payment

For RY 2028, the same payment PPCs that were included in RY 2026-2027 policies are assessed, as shown in Figure 1. Additional discussion on PPC selection for RY28 and discussion of the future of the program can be found in the approved [MHAC policy](#) and [PMWG meeting documentation](#).

**Figure 1. RY 2028 Payment PPCs**

PPC Number	PPC Title
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation
5	Pneumonia and Other Lung Infections
6	Aspiration Pneumonia
7	Pulmonary Embolism
9	Shock
16	Venous Thrombosis
28	In-Hospital Trauma and Fractures
35	Septicemia & Severe Infections
37	Post-Operative Infection & Deep Wound Disruption without Procedure
41	Post-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or I&D
42	Accidental Puncture/Laceration During Invasive Procedure
47	Encephalopathy
49	Iatrogenic Pneumothorax
60	Major Puerperal Infection and Other Major Obstetric Complications
61	Other Complications of Obstetrical Surgical & Perineal Wounds

# Performance Metric Methods

## Payment PPC Composite

For RY 2028, the performance on PPCs will be assessed using a single composite measure that is weighted by the Solventum cost weights and the hospital-specific expected PPCs. Hospitals are held accountable for all 16 PPCs as long as they have at least one at-risk discharge for each PPC during the performance period. The hospital composite is then compared to the threshold and benchmark composite values that are calculated using the base period data. As shown in the equation below, the PPC composite score is calculated as the sum of the hospital's observed PPCs times the Solventum Cost Weight for each payment PPC measure divided by the sum of the hospital's expected PPCs times the Solventum Cost Weight for each payment PPC measure. The updated PPC Cost weights may be found in Appendix I.

$$PPC\ Composite_j = \frac{(\sum_{i=1}^{16} ObservedPPC_{ij} * SolventumCostWeight_i)}{(\sum_{i=1}^{16} ExpectedPPC_{ij} * SolventumCostWeight_i)}$$

The composite does not explicitly weight PPC measures by volume, but PPC measures with higher expected PPCs receive more weight. The expected PPCs for a PPC measure generally increases as the volume of at-risk discharges increases.

## PSI 90 All-Payer Composite

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

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

PSI 90 combines the smoothed (empirical Bayes shrinkage) indirectly standardized morbidity ratios (observed/expected ratios) from selected Patient Safety Indicators. 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 harm (for example, the outcome severity or the least-preferred states from the patient perspective). A summary description of the AHRQ v2025 PSI 90 scoring methodology may be found at: [AHRQ All-Payer PSI 90 Scoring Methodology](#)

## MHAC Score Calculations

The final MHAC hospital score weights the PPC composite at 5/6th of the final score and the PSI 90 composite at 1/6th of the final score.

### PPC, PSI, and Final MHAC Scores

The PPC and PSI composite measure values (lower is better) are compared to the threshold and benchmark values and the results are weighted as specified above for the MHAC percent score. The threshold (worse performance) and benchmark (better performance) are calculated by averaging the PPC and PSI composite scores for all hospitals in the bottom or top 20th percentile of performance in the base period, respectively.

If the PPC or PSI composite measure score for the performance period is greater than the threshold, the hospital scores zero percent.

If the PPC or PSI composite measure score for the performance period is less than or equal to the benchmark, the hospital scores 100 percent.

If the PPC or PSI composite measure is between the threshold and benchmark, the hospital scores between 0-100 percent. The formula for calculating PPC and PSI composite scores and final MHAC score is as follows:

- MHAC Score =  $\left[\frac{5}{6} * (99 * ((\text{Hospital's PPC composite measure} - \text{Threshold}) / (\text{Benchmark} - \text{Threshold})) + 0.5) + \frac{1}{6} * (99 * ((\text{Hospital's PSI composite measure} - \text{Threshold}) / (\text{Benchmark} - \text{Threshold})) + 0.5)\right]$

### **Preliminary Composite Threshold and Benchmark Values**

For the PPC composite, the preliminary threshold value is 1.3338, and the preliminary benchmark value is 0.4693. The final values will be included in the summary workbook released on the CRS Portal.

For the PSI composite, the preliminary threshold value is 1.3230, and the preliminary benchmark value is 0.6759. The final values will be included in the summary workbook released on the CRS Portal.

For those unfamiliar with the PPC Composite, a webinar primer is also available.<sup>1</sup>

### **Small Hospital Criteria**

Small hospitals (i.e., a hospital with less than 21,500 at-risk discharges or 22 expected PPCs in the two-year base period) will be assessed using two years of data for both PPCs and PSIs.

### **Scaling Methodology and Revenue At-Risk**

The RY 2028 program uses a continuous scale with a full distribution of potential scores (scale of 0-100%); the preliminary cut point 78 percent (i.e., score at which penalties end and rewards begin) is based on the average hospital scores from modeling. This cut point will be updated with final data to reflect the true average hospital score to only penalize hospitals performing worse than the average hospital in Maryland. The actual average is provided in the MHAC summary report throughout the performance period for

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<sup>1</sup> On April 14, 2025, HSCRC staff convened a recorded webinar (and posted a [link](#) on the MHAC page) for hospitals and other interested parties that provides a review of the technical information on how to calculate hospital PPC composite MHAC scores; links to accompanying PowerPoint slides and a composite workbook were also posted on the MHAC page as well as a workbook with data output that uses PPC Grouper v42.

reference. Both the minimum and maximum revenue adjustment remain at 2 percent of inpatient revenue. The preliminary revenue adjustment scale is in Appendix II.

## **RY2028 Base and Performance Periods**

For the PPC composite measure, the base period is the historical time period used for determining performance standards, including the normative values used to calculate expected rates and the threshold and benchmark for scoring performance. For the PSI composite measures, the base period is the historical time period used for determining the threshold and benchmark. For RY 2028 the base period is July 2023-June 2025. The performance period is CY 2026, but small hospitals will have a two year performance period (CY 2025 and CY 2026).

## **Solventum Grouper Versions and PPC Feedback**

The APR-DRG and PPC Grouper Version 43 and its quarterly updates will be used for RY 2028. For the PSI composite measure, initial reports will be produced with v2025 and will be updated using v2026 when it becomes available later this year.

Hospitals can access detailed information on the Version 43 APR-DRGs and PPC specifications (including assignment logic, PPC-specific and global exclusions and inclusions, etc.) on the Solventum Patient Classification Methodologies Portal; the link is available to Maryland stakeholders and may be found in MHAC summary reports workbook available on the CRISP Reporting Services portal. In addition, the HSCRC continues to encourage hospitals to submit concerns about the Solventum PPC specifications; staff advises that stakeholders that want to submit PPC feedback check the [Solventum HIS support website](#) for this option, and that PPC-specific feedback may be sent to HSCRC in addition to the feedback option available on the Solventum website.

## **MHAC Program Reporting through CRS Portal**

All monthly and quarterly PPC and PSI-90 summary reports and patient-level data files will continue to be made available to hospitals through the CRISP Reporting Services (CRS) portal. The monthly summary PPC and PSI-90 reports provide RY 2028 program details and resources for PSIs and Payment PPCs (i.e., Solventum cost weights, performance standards, revenue adjustment scale, normative values, and a

calculation sheet), as well as year-to-date performance. The monthly PPC and PSI-90 patient-level reports provide patient level performance on each of the measures. To estimate hospital scores, a calculation sheet will also be available on the CRS portal. Most hospital contacts have access to the summary report, and a limited number of hospital contacts have access to the case-level detail that contains PHI. Each hospital has a point-of-contact, the Chief Financial Officer or their designee, who is contacted by CRISP to approve requests for access. If you need access to quality reports, please send an email to CRISP Support ([support@crisphealth.org](mailto:support@crisphealth.org)) indicating level of access (summary reports or case-level data).

Additional details on the MHAC methodology can be found in the [RY 2028 policy](#). If you have any questions, please contact the Quality Team at [hscrc.quality@maryland.gov](mailto:hscrc.quality@maryland.gov).

## Appendix I: PPC Cost Weights

### RY 2028 MHAC PPC Cost Weights under Grouper v. 43

PPC Number	PPC Description	v43 Cost Weight
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation	0.2686
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation	1.1056
5	Pneumonia and Other Lung Infections	1.8785
6	Aspiration Pneumonia	0.8525
7	Pulmonary Embolism	1.2373
9	Shock	1.1623
16	Venous Thrombosis	1.5094
28	In-Hospital Trauma and Fractures	0.5629
35	Septicemia & Severe Infections	1.2404
37	Peri-Operative Infection & Deep Wound Disruption without Procedure	1.5822
41	Peri-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure	0.8325
42	Accidental Puncture/Laceration During Invasive Procedure	1.4690
47	Encephalopathy	0.8396
49	Iatrogenic Pneumothorax	0.4363
60	Major Puerperal Infection and Other Major Obstetric Complications	0.7028
61	Other Complications of Obstetrical Surgical & Perineal Wounds	0.0921

## Appendix II: RY 2028 MHAC Revenue Adjustment Scale

Below is a concise version of the RY 2028 MHAC scale, which is continuous and ranges from 0 to 100 percent with no hold harmless zone. This scale uses a preliminary cut point of **78 percent**; the actual average score will be used as the cutpoint. **Final scaled revenue adjustments will utilize actual MHAC scores out to 2 decimal places; below are percent adjustments at the specified ventiles.**

Final MHAC Score	Revenue Adjustment
0%	-2.00%
5%	-1.87%
10%	-1.74%
15%	-1.62%
20%	-1.49%
25%	-1.36%
30%	-1.23%
35%	-1.10%
40%	-0.97%
45%	-0.85%
50%	-0.72%
55%	-0.59%
60%	-0.46%
65%	-0.33%
70%	-0.21%
75%	-0.08%
78%	0.00%
80%	0.18%
84%	0.55%
85%	0.64%
90%	1.09%
95%	1.55%
100%	2.00%