



# Maryland Hospital Acquired Conditions Program

## Overview of Methodology and Reporting

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Alyson Schuster, Associate Director of Performance Measurement

Dianne Feeney, Associate Director of Quality Initiatives

Elsa Haile, Chief of Quality Initiatives



# Webinar Agenda

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- ▶ Program Overview and Guiding Principles
- ▶ New Methodology for MHAC Performance Scoring
- ▶ Financial Impact of MHAC Performance
- ▶ MHAC Excel Workbook
- ▶ MHAC Program Reporting Timelines
- ▶ Calculation Sheet

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# Overview and Guiding Principles



# MHAC Program

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- ▶ Uses list of 65 Potentially Preventable Complications (PPCs) developed by 3M.
- ▶ PPCs are defined as harmful events (accidental laceration during a procedure) or negative outcomes (hospital acquired pneumonia) that may result from the process of care and treatment rather than from a natural progression of underlying disease.
- ▶ Relies on Present on Admission (POA) Indicators
- ▶ Links hospital payment to hospital performance by comparing the observed number of PPCs to the expected number of PPCs.

# Guiding Principles

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- ▶ **Achieve the new All-payer model goal of a 30% reduction in all 65 PPCs by the end of 2018.**
- ▶ Breadth and impact of the program must meet or exceed the Medicare national program in terms of measures and revenue at risk.
- ▶ Improve care for all patients, regardless of payer
- ▶ Prioritize PPCs that are high volume, high cost, have opportunity for improvement and are areas of national focus.
- ▶ Predetermined performance targets and financial impact
- ▶ Encourage cooperation and sharing of best practices
- ▶ Hold harmless for lack of improvement if attainment is highly favorable.
- ▶ Ability to track progress

# Previous and New MHAC Methodology Comparison

Dimension	Previous MHAC Program RY 2016	New MHAC Program RY2016
Performance Metric	Excess cost of PPCs/total revenue at risk	Observed/Expected Ratio
Weights	Estimated cost of each PPC	Three tiers; high cost/high prevalence weighted more heavily (50% of total score)
Case Mix Adjustment	APR-DRG/ Severity of Illness with limited case exclusions	Current Policy + small cell size exclusions (at risk<10, expected <1)
Attainment/Improvement	Separate scales for improvement and attainment	Better of attainment or improvement
Performance Standards	75% of state average	<ul style="list-style-type: none"> <li>Threshold (0 Points): State average</li> <li>Benchmark (Full Points): Average of top 25% best performing hospitals                             <ul style="list-style-type: none"> <li>Serious Reportable Events:0</li> </ul> </li> </ul>
Scaling	Relative ranking, revenue neutral	<ul style="list-style-type: none"> <li>Point-based preset scaling, may not be revenue neutral</li> <li>Statewide performance impacts the scaling results</li> </ul>



# Rate Year 2016

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- ▶ Base Period = CY2013
- ▶ Performance Period = CY2014

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# New Methodology for MHAC Performance Scoring





# Components of Measurement Methodology

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- ▶ Performance Metric
- ▶ Adjustments to PPC Measurement
- ▶ Benchmarks and Thresholds
- ▶ Attainment and Improvement Points
- ▶ Calculation of Overall MHAC Score

During this presentation, we will reference the tabs in the MHAC Excel Workbook:

**“MHAC Permanent and Detailed Tables \_ CY2013 Base Period & FY2014 Q1 (Jan\_Feb)”**

This workbook was sent out with the MHAC RY2016 Memo.

# Performance Metric

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- ▶ Hospital performance is measured using the Observed (O) / Expected (E) ratio for each PPC.
- ▶ Lower number = Better performance
- ▶ Expected number of PPCs for each hospital are calculated using the base period statewide PPC rates by APR-DRG and severity of illness (SOI).

Norms file to calculate expected values is available on the HSCRC website and is Tab 5 of the MHAC Excel Workbook.

# Adjustments to PPC Measurement

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- ▶ Adjustments are done to improve measurement fairness and stability.
- ▶ The following exclusions will be applied:
  - ▶ For the state, cases will be removed if:
    - ▶ APR-DRG SOI cell has less than 2 total cases
    - ▶ Palliative care cases
    - ▶ Cases with more than 6 PPCs

} Applied to base period and performance period
  - ▶ For each hospital, PPCs will be excluded if:
    - ▶ The number of cases at-risk is less than 10
    - ▶ The number of expected cases is less than 1

} Applied to base period only

# Excluded PPCs

## 4. List of Excluded PPCs from Performance Period, by Hospital, based on CY2013 Base Period Data

Hospitals not listed have no excluded PPCs. Serious reportable events are included for all hospitals.

Hospital ID	Hospital	Excluded PPC Number
210001	MERITUS	12
210001	MERITUS	26
210001	MERITUS	43
210001	MERITUS	63
210003	PRINCE GEORGE	12
210003	PRINCE GEORGE	25
210003	PRINCE GEORGE	26
210003	PRINCE GEORGE	38
210003	PRINCE GEORGE	41
210003	PRINCE GEORGE	43
210003	PRINCE GEORGE	63
210004	HOLY CROSS	12
210005	FREDERICK MEMORIAL	12
210005	FREDERICK MEMORIAL	26
210005	FREDERICK MEMORIAL	63

List of excluded PPCs is available on the HSCRC website and is Tab 4 of the MHAC Excel Workbook.



# Benchmarks and Thresholds

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- ▶ A threshold and benchmark value for each PPC is calculated based upon the CY 2013 base period data.
- ▶ For serious reportable events, the threshold and benchmark are 0 (PPC 30, 31, 32, 45, and 46).
- ▶ For all other PPCs:
  - ▶ Threshold = weighted mean of all O/E ratios (O/E =1)
  - ▶ Benchmark = weighted mean of the top quartile O/E ratio.

## 2. Thresholds and Benchmarks for RY 2016

PPC Number	PPC Description	Threshold	Benchmark
1	Stroke & Intracranial Hemorrhage	1	0.6026
2	Extreme CNS Complications	1	0.4282
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation	1	0.5781
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation	1	0.5058
5	Pneumonia & Other Lung Infections	1	0.5012
6	Aspiration Pneumonia	1	0.4914
7	Pulmonary Embolism	1	0.4370
8	Other Pulmonary Complications	1	0.3243
9	Shock	1	0.6096
10	Congestive Heart Failure	1	0.1851
...			
...			
...			
30	Poisonings due to Anesthesia	0	0.0000
...			
...			
...			
60	Major Puerperal Infection and Other Major Obstetric Complications	1	0.2779
61	Other Complications of Obstetrical Surgical & Perineal Wounds	1	0.4157
62	Delivery with Placental Complications	1	0.2188
63	Post-Operative Respiratory Failure with Tracheostomy	1	0.0000
64			0.0000
65			0.5428
66			0.0762

Serious Reportable Event

Thresholds and Benchmarks are posted on the HSCRC website and is Tab 2 of MHAC Excel workbook.



# Attainment and Improvement Points

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- ▶ Hospital's O /E ratios are compared to statewide benchmarks and thresholds and converted to points from 0-10.
- ▶ The points for each PPC are based on the **higher of attainment points or improvement points.**
- ▶ **Attainment points:**
  - ▶ Number of points is based on the range between the benchmark and threshold. Hospitals whose performance period rates are equal to or below the benchmark receive 10 full attainment points and hospitals whose rates are above the threshold receive 0 attainment points.
- ▶ **Improvement points:**
  - ▶ Number of points is based on a scale between the hospital's base period on a particular PPC and the benchmark.

# Points Formulas

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- ▶ **Attainment Points:**  $[9 * ((\text{Hospital's performance period score} - \text{Attainment threshold}) / (\text{benchmark} - \text{Attainment threshold}))] + .5$ , where the hospital performance period score falls in the range from the Attainment threshold to the benchmark
- ▶ **Improvement Points:**  $[10 * ((\text{Hospital performance period score} - \text{Hospital baseline period score}) / (\text{Benchmark} - \text{Hospital baseline period score}))] - .5$ , where the hospital performance score falls in the range from the hospital's baseline period score to the



# PPC Tiers

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- ▶ PPCs are in tiers that are weighted differently to put more emphasis on the “target” PPCs since reducing these will contribute more to achieving the waiver goal.
- ▶ Three ‘tiers’ of MHACs/PPCs
  - ▶ Tier 1 – Target list– High volume, high cost, and opportunity for improvement and national focus
  - ▶ Tier 2 – PPCs not on target list, but have high percentage attributed to Medicare patients (60%) and affect majority of hospitals (> 43)
  - ▶ Tier 3 – All other PPCs, including those with very low volume, affecting low number of hospitals, Obstetric-related PPCs

Tier	Weighting	# of PPCs
Tier 1	100%	20
Tier 2	60%	9
Tier 3	40%	36

# Calculation of Overall MHAC Score

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- ▶ The final score is calculated using the following formula:

$$\begin{aligned} \text{Final Score} = & \\ & ((\text{Points Tier 1} * 1) / (\text{Denominator Tier 1} * 1)) + \\ & ((\text{Points Tier 2} * 0.6) / (\text{Denominator Tier 2} * 0.6)) + \\ & ((\text{Points Tier 3} * 0.4) / (\text{Denominator Tier 3} * 0.4)) \end{aligned}$$

Tab 6 and Tab 7 of MHAC Excel workbook have PPC specific points calculations and Hospital MHAC Scores.

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# Financial Impact of MHAC Performance



# Revenue At Risk

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- ▶ For RY 2016 the Commission voted for the following scaling parameters:
  - ▶ For CY2014 performance period, the statewide MHAC minimum improvement target is an **8%** reduction.
  - ▶ If the 8% reduction target is not met, the maximum revenue at risk will be 4% of permanent inpatient revenue.
  - ▶ If the 8% reduction target is exceeded, the maximum revenue at risk will be 1% of permanent inpatient revenue and there will be rewards to hospitals with a score of greater than 0.60, up to 1% of permanent inpatient revenue provided sufficient funds are collected through penalties.
  - ▶ There is a maximum statewide total penalty limit at 0.5% of permanent inpatient revenue.

# Scaling

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- ▶ The percent of revenue at risk is determined based on a preset scale that is calculated using the base period attainment points.
- ▶ The scale is a continuous range from the base period minimum score to the maximum score.
- ▶ The percent of revenue at-risk will vary for each hospital based on the hospital's performance score and depending on whether the statewide MHAC minimum improvement target is met.

### 3. Scaling for Penalties and Rewards based upon Final MHAC Scores

Final MHAC Score	Below State Quality Target	Exceed State Quality Target
Scores less than or equal to 0.17	-4.00%	-1.00%
0.18	-3.88%	-0.97%
0.19	-3.76%	-0.93%
...		
...		
...		
0.45	-0.71%	-0.03%
0.46	-0.59%	0.00%
0.47	-0.47%	0.00%
0.48	-0.35%	0.00%
0.49	-0.24%	0.00%
0.50	-0.12%	0.00%
0.51	0.00%	0.00%
0.52	0.00%	0.00%
0.53	0.00%	0.00%
0.54	0.00%	0.00%
0.55	0.00%	0.00%
0.56	0.00%	0.00%
0.57	0.00%	0.00%
0.58	0.00%	0.00%
0.59	0.00%	0.00%
0.60	0.00%	0.00%
0.61	0.00%	0.00%
0.62	0.00%	0.05%
0.63	0.00%	0.11%
0.64	0.00%	0.16%
0.65	0.00%	0.21%
0.66	0.00%	0.26%
0.67	0.00%	0.32%
0.68	0.00%	0.37%
0.69	0.00%	0.42%
0.70	0.00%	0.47%
0.71	0.00%	0.53%
0.72	0.00%	0.58%
0.73	0.00%	0.63%
0.74	0.00%	0.68%
0.75	0.00%	0.74%
0.76	0.00%	0.79%
0.77	0.00%	0.84%
0.78	0.00%	0.89%
0.79	0.00%	0.95%
Scores greater than or equal to 0.80	0.00%	1.00%

Scaling is available on the HSCRC website and is Tab 3 of the MHAC Excel Workbook.

#### ▶ Scaling Scores:

- ▶ Based on CY2013 Attainment Scores
- ▶ Ranges from 0.17 - 0.80 (min. – max. score)

Final MHAC Score:	Below State Quality Target	Exceed State Quality Target
Penalty Threshold	0.51	0.46
Reward Threshold	No rewards	0.61

**HSCRC**

Health Services Cost Review Commission

# Statewide MHAC Improvement

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- ▶ The statewide MHAC improvement rate is the percentage change in the O/E ratio in the performance period compared to the base period and calculated as follows:

$$\left\{ \frac{\text{Observed in CY2014/Expected in CY2014}}{\text{Observed in CY2013/Observed in CY2013}} \right\} - 1$$

PPC improvement during performance period is presented by hospital and for the state in Tab 8 of MHAC Excel workbook.

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# MHAC Program Reporting and Calculation Sheet





# MHAC Excel Workbook

File Name: MHAC Permanent and Detailed Tables \_ CY2013 Base Period & FY2014 Q1 ([MONTHS])

- ▶ Tab 1. Cover Sheet
  - ▶ Tab 2. Benchmark and Threshold
  - ▶ Tab 3. Percent At-Risk Scaling
  - ▶ Tab 4. Hospital Excluded PPCs
  - ▶ Tab 5. PPC Norms
  - ▶ Tab 6. Hospital Performance Results
  - ▶ Tab 7. Final Scores Performance Period
  - ▶ Tab 8. Statewide PPC Improvements by Hospital
- CY2013 Base Period
- CY2014 Performance Period

# Program Reporting Beginning May 2014

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- ▶ Monthly preliminary results (MHAC Excel Workbook) and case-level reports
  - ▶ Within 28 days after the end of the previous month.
- ▶ Quarterly final results
  - ▶ Within 75 days after the end of the previous quarter.
- ▶ Annual final results
  - ▶ Within 75 days after the end of the full performance period.

# Calculation Sheet

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- ▶ A calculation sheet is available to allow hospitals to monitor scores over time or estimate final scores.

# Acknowledgements

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- ▶ Thanks to the MHA, hospital industry, and other stakeholders for their work on developing and proposing the new MHAC methodology.

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# Questions

Please feel free to email questions to:  
[hscrc.quality@maryland.gov](mailto:hscrc.quality@maryland.gov)

