

**Final Recommendations for the  
Readmissions Reduction Incentive Program  
for Rate Year 2018**

June 8, 2016

Health Services Cost Review Commission

4160 Patterson Avenue  
Baltimore, Maryland 21215  
(410) 764-2605  
FAX: (410) 358-6217

These final recommendations were approved by the commission on June 8, 2016.

## Table of Contents

List of Abbreviations .....	1
Introduction .....	2
Background .....	2
Medicare Hospital Readmissions Reduction Program .....	2
Overview of the Maryland RRIP Program .....	3
Assessment .....	5
Maryland’s Performance to Date .....	5
Improvement Target Calculation Methodology for Rate Year 2018.....	7
Measuring the Better of Attainment or Improvement.....	9
The Link between Shared Savings and RRIP .....	15
Considerations for the RY 2017 RRIP Policy .....	15
Recommendations .....	16
Appendix I. HSCRC Current Readmissions measure specifications.....	17
Appendix II. CMS Medicare Test Readmission Measure Version 5 changes.....	22
Appendix III. All-Payer Hospital-Level Readmission Rate Change CY 2015-2013 .....	23
Appendix IV. Report by Mathematica Policy Research – Development of A Risk-Adjusted Readmission Rate: Summary of Findings.....	24
Appendix V. Summary of the Maryland Hospital Association Rate Year 2018 RRIP Program Proposal.....	25
Appendix VI. Summary of the CareFirst Rate Year 2018 RRIP Program Proposal .....	27
Appendix VII. RY 2017 Improvement and Attainment model results .....	28
Appendix VIII. Out-Of-State Medicare Readmission Ratios .....	32

## LIST OF ABBREVIATIONS

ACA	Affordable	Care Act
ADI	Area	deprivation index
APR-DRG		All-patient refined diagnosis-related group
ARR	Adm	ission-Readmission Revenue Program
CMS		Centers for Medicare & Medicaid Services
CMMI	Center	for Medicare and Medicaid Innovation
CRISP		Chesapeake Regional Information Systems for Our Patients
CY	Calendar	year
ED	Em	ergency department
FFS	Fee-for-serv	ice
FFY	Federal	fiscal year
FY	Fiscal	year
HRRP		Hospital Readmissions Reduction Program
HSCRC		Health Services Cost Review Commission
ICD-10		International Classification of Disease, 10 <sup>th</sup> Edition
MHA	Maryland	Hospital Association
MHAC		Maryland Hospital-Acquired Conditions Program
PAU	Potentially	avoidable utilization
PPC		Potentially preventable complication
PQI	Prevention	quality indicator
RRIP	Readm	issions Reduction Incentive Program
RSSP		Readmissions Shared Savings Program
RY	Rate	year
SES/D	Socio-econom	ic and demographic
SOI	Severity	of illness
YTD	Year-to-date	

## INTRODUCTION

The purpose of this report is to make recommendations for updating the Readmissions Reduction Incentive Program (RRIP) for the state rate year (RY) 2018 methodology and making revisions to the application of the RY 2017 RRIP. This recommendation is finalized with no substantial changes from the second draft recommendation presented at the May 11<sup>th</sup>, 2016 Maryland Health Services Cost Review Commission (HSCRC or Commission) meeting. This final recommendation includes supporting details that were not available for the second draft recommendation.

The final recommendation, which introduces major changes relative to the RY 2017 policies adopted by the Commission, addresses the following policy elements:

- Updating the policy to include an “attainment” as well as an improvement evaluation;
- Establishing an estimate of readmissions occurring outside of Maryland;
- Using “attainment” measures to finalize adjustments for RY 2017, moderating adjustments that were based exclusively on improvements;
- Evaluating risk adjustments applied in the methodology, including an evaluation of the potential impact of socioeconomic factors on the results;
- Evaluating Calendar Year 2015 performance versus the All Payer Agreement requirements and recommending targets to ensure continued progress; and
- Developing targets for attainment and improvement with established preset rewards/penalties scaling for application of the RY 2018 RRIP.

The RRIP policies, as recommended, are not intended to assure savings. Savings are addressed under the proposed PAU Savings Program. These recommendations for the RRIP are based on the assumption that the Commission will adopt the proposed PAU Savings Program. If there are modifications to that proposal, the final recommendations for the RRIP may need to be adjusted to ensure savings under the policies..

## BACKGROUND

### Medicare Hospital Readmissions Reduction Program

The United States health care system currently has an unacceptably high rate of preventable hospital readmissions. These excessive readmissions generate considerable unnecessary costs and substandard care quality for patients. A readmission is defined as an admission to a hospital within a specified time period after a discharge from the same or another hospital. Under

authority of the Affordable Care Act (ACA), the Centers for Medicare & Medicaid Services (CMS) established its Medicare Hospital Readmissions Reduction Program (HRRP) in federal fiscal year (FFY) 2013. Under this program, CMS calculates the average risk-adjusted, 30-day hospital readmission rates for patients with certain conditions using claims data. If a hospital's risk-adjusted readmission rate for such patients exceeds that average, CMS penalizes it in the following year for all Medicare admissions; the penalty is in proportion to the hospital's rate of excess readmissions. Penalties under the HRRP were first imposed in FFY 2013, during which the maximum penalty was 1 percent of the hospital's base inpatient claims. The maximum penalty increased to 2 percent for FFY 2014 and 3 percent for FFY 2015 and beyond. CMS uses three years of previous data to calculate each hospital's readmission rate. For penalties in FFYs 2013 and 2014, CMS focused on readmissions occurring after initial hospitalizations for three conditions: heart attack, heart failure, and pneumonia. For penalties in FFY 2015, CMS included two additional conditions: chronic obstructive pulmonary disease and elective hip or knee replacement. In the future, CMS intends to continue with these conditions and will add the assessment of performance following initial diagnosis of coronary artery bypass graft surgery to the list for FFY 2017.<sup>1</sup>

## Overview of the Maryland RRIP Program

Because of its long-standing Medicare waiver for its all-payer hospital rate-setting system, special considerations were given to Maryland, including exemption from the federal HRRP. The ACA requires Maryland to have a similar program and achieve the same or better results in costs and outcomes in order to maintain this exemption. The Commission made an initial attempt to encourage reductions in unnecessary readmissions when it created the Admission-Readmission Revenue (ARR) program in RY 2012. The ARR program, which was adopted by most Maryland hospitals, established "charge per episode" constraints on hospital revenue, providing strong financial incentives to reduce hospital readmissions. The ARR program was replaced with global budgets in RY 2014. In May 2013, the Commission also approved the Readmission Shared Savings Program (RSSP) for RY 2014 to achieve savings that would be approximately equal to those that would have been expected from the federal Medicare HRRP. Based on hospital achievement levels in reducing readmissions, the RSSP decreased hospital inpatient revenues on average by 0.20 percent of state total revenue in its first year.

The All-Payer Model Agreement with CMS replaced the requirements of the ACA by establishing two sets of requirements to maintain exemptions from federal programs for readmissions and hospital-acquired conditions. One set of requirements established performance targets for readmissions and complications, while the second set of requirements ensured that the amount of revenue adjustments in Maryland's quality-based programs matched CMS levels in

---

<sup>1</sup> For more information on HRRP, see <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html>.

aggregate. For readmissions, Maryland's statewide hospital readmission rate must be equal to or below the national Medicare readmission rate by CY 2018. Maryland must also make scheduled, annual progress toward this goal.

In order to meet the new Model requirements, the Commission approved a new readmissions program in April 2014—the RRIP—to further bolster the incentives to reduce unnecessary readmissions. The Performance Measurement Work Group established the following guiding principles for the RRIP:

- The measurements used for performance linked with payment must include all patients, regardless of payer.
- The measurements must be fair to hospitals.
- Annual targets must be established to reasonably support the overall goal of meeting or outperforming the national Medicare readmission rate by CY 2018.
- The measurements used should be consistent with the CMS readmissions measure.
- The approach must include the ability to track progress.

The RRIP provided a positive increase of 0.50 percent of inpatient revenues in RY 2016 for hospitals that were able to meet or exceed a pre-determined reduction target for readmissions in CY 2014 relative to CY 2013. Readmission rates are adjusted for case-mix using all-patient refined diagnosis-related group (APR-DRG) severity of illness (SOI) (see Appendix I for details of indirect standardization method). The readmissions reduction target was set at 6.76 percent of all-payer case-mix adjusted readmission rates.<sup>2</sup> The HSCRC did not impose penalties in the first year of the RRIP program.

As the progress in reducing readmissions was slower than projected, the RRIP methodology was updated for RY 2017 to include both higher potential rewards for hospitals that achieved or exceeded the readmission reduction target and payment reductions for hospitals that did not achieve the required readmission reductions. Rewards and payment reductions were allocated along a scale commensurate with hospital improvement rates. The readmission reduction target for RY 2017 was set at 9.30 percent from CY 2013 all-payer case-mix adjusted readmission rates.<sup>3</sup>

---

<sup>2</sup> This target was based on the excess levels of Medicare readmissions in Maryland in CY 2013 (8.78 percent), divided by five (representing each year of the Model Agreement performance period), plus an estimate of the reduction in Medicare readmission rates that would be achieved nationally (5.00 percent)

<sup>3</sup> The target was updated based on remaining national Medicare readmission rates and a projected 1.34 percent decline in the national Medicare readmission rates in CY 2015.

## ASSESSMENT

### Maryland's Performance to Date

#### *Medicare Waiver Test Performance*

With the onset of the All-Payer Model Agreement, HSCRC and CMS staff worked to refine the Medicare readmission measure specifications used to determine contract compliance. These changes narrowed the gap between the Maryland and national Medicare readmission rates to 7.96 percent for CY 2013 (or 1.23 percentage points), as the original estimates included planned admissions, and more importantly, specially-licensed rehabilitation and psychiatric beds for Maryland, but not for the nation (see Appendix II for details). Final calculations indicate that Maryland's Medicare readmission rate was 16.61 percent compared with the national rate of 15.39 percent for CY 2013.

Using the revised final measurement methodology, Maryland performed better than the nation in reducing readmission rates in both CY 2014 and CY 2015. The Model Agreement requires Maryland to make annual progress by reducing the gap by one-fifth each year to lower Maryland's readmission rates to the national level by the end of the demonstration period. Figure 1 provides the calculations for this test and results for CY 2014 and CY 2015.

The top portion of the figure shows the calculations for determining the annual reduction required to close the gap between the Maryland and national Medicare readmission rates, as required by the All-Payer Model Agreement. The second portion of the figure shows the calculations for determining Maryland's progress in meeting the readmissions reduction target. Maryland is required to close the gap by 0.25 percentage points each year. Maryland performed better than the CY 2015 target gap of 0.74 percentage points by reducing the gap to 0.53 percentage points.<sup>4</sup>

---

<sup>4</sup> Staff was able to resolve the issues related to ICD-10 and updated the results presented in the draft recommendation.

**Figure 1. All-Payer Model Maryland Medicare Readmissions Test**

<b>BASE YEAR RATES</b>					
<b>CY 2013 National Medicare Readmission Rate</b>					
	A		15.39%		
<b>CY 2013 MD Medicare Readmission Rate</b>					
	B		16.61%		
<b>MD vs National Difference*</b>					
	C=B-A		1.23%		
<b>Annual Reduction needed to Close the Gap</b>					
	D=C/5		0.25%		
<b>PERFORMANCE YEAR CALCULATIONS</b>					
Calendar Year	National Rate	MD-National Required Difference	MD Required Rate	MD Actual Rate	MD-National Difference
E	F	G=C - (D*YearX)	H=F+G	I	J=I-F
<b>CY 2014</b>	15.50%	<b>0.98%</b>	16.48%	16.47%	<b>0.97%</b>
<b>CY 2015</b>	15.42%	<b>0.74%</b>	16.15%	15.95%	<b>0.53%</b>

\*Percents are rounded up to two decimal points in the tables.

### All-Payer Performance

While the CMS readmission target is based on the unadjusted readmission rate for Medicare patients, the RRIP adjustments measure the all-payer case-mix adjusted readmission rate, in line with the guiding principles and all-payer approach used in all other programs in Maryland. The RRIP measure was refined to incorporate many of the elements of the CMS Medicare measure specifications (e.g., planned admissions and transfer logic). See Appendix I for more details on the RRIP methodology.

In CY 2015, Maryland made progress towards meeting the Medicare readmission reduction contract requirement, although this may be mainly attributed to a slower than expected rate of decline in the national readmission rates. Despite this progress, the all-payer readmission rate decline has fallen short of the statewide CY 2015 cumulative target of 9.30 percent. Appendix III provides hospital-level improvement rates for discharges occurring through December 2015.<sup>5</sup> Overall, all-payer readmission rates declined by 7.13 percent over CY 2013, with nearly one-



third of the hospitals meeting or exceeding the 9.30 percent reduction target. Seven hospitals had an increase in their readmission rates; the highest increase was 17.34 percent.

## Improvement Target Calculation Methodology for Rate Year 2018

As previously stated, under the All-Payer Model Agreement, Maryland is required, at a minimum, to close one-fifth of the gap between the national and Maryland readmission rates and match the national decline in Medicare readmission rates to eliminate the excessive level of readmissions by CY 2018. Although we now know that one-fifth of the gap is 0.25 percentage points, it is challenging to predict national readmission rates and to set targets for the state prospectively. Furthermore, additional adjustment factors are necessary to convert the Medicare readmission target to an all-payer case-mix adjusted target. HSCRC contractor Mathematica Policy Research modeled different specifications to predict national readmission rates. The target calculation models assume that Maryland would need to match the annual decline in the national Medicare readmission rate, close the remaining gap between the Maryland and national rates by one-third, and adjust the target upward to close the gap between the Maryland Medicare readmission rates from CMMI calculations and the HSCRC all-payer case-mix adjusted trends.

Figure 2 provides the calculation of the target gap for CY 2016. The remaining gap between the national and Maryland Medicare readmission rates was 0.53 percentage points in CY 2015. If we set the target to reduce the remaining gap in equal amounts annually over the remaining years in the Model period, the CY 2016 target gap between the national and Maryland Medicare readmission rates would be 0.36 percentage points. This calculation is more aggressive than the All-Payer Model test, which requires Maryland to meet a 0.49 percentage point difference in CY 2016.<sup>6</sup> Staff modeled different assumptions for estimating the national readmission rates in CY 2016 to calculate the Maryland Medicare readmission reduction target. Figure 3 is based on an estimate provided by Mathematica Policy Research of the projected decline in the national readmission rate using regression models that incorporate trends from the last five years. Based on this model, the required Medicare readmission reduction is 5.77 percent in CY 2016 compared to CY 2013.

---

<sup>6</sup> The CMMI calculation is based on reducing the base year gap by one-fifth annually. The CY 2015 required gap for the CMS test was 0.74 percentage points, and Maryland's performance was 0.53 percentage points. Since Maryland reduced the gap by more than what was required in CY 2015, we gained some cushion in our estimates.

**Figure 2. Calculation of the Readmissions Target Gap for CY 2016**

<b>CY 2015 National Medicare Readmission Rate</b>	A	15.42%
<b>CY 2015 MD Medicare Readmission Rate</b>	B	15.95%
<b>MD vs. National Difference</b>	C=B-A	0.53%
<b>Annual Gap Reduction needed to Close the Gap</b>	D=C/3	0.18%
<b>CY 2016 Target Gap</b>	E=C-D	0.36%

**Figure 3. Two Projections for the Estimating CY 2016 Maryland Medicare Readmissions Target**

	National % Annual Change	National Medicare Readmission Rate	MD-National Target Gap	MD Medicare Readmission Target Rate	MD Annual % Medicare Readmission Target	MD % Change from CY 2013
<b>A</b>	<b>B</b>	<b>C=15.42%*(1+B)</b>	<b>D</b>	<b>E=C+D</b>	<b>H=D/15.95%-1</b>	<b>I=E/16.61%-1</b>
<b>CY 16 –Regression Trend Estimate for National Annual Change</b>	-0.80%	15.30%	<b>0.36%</b>	15.65%	-1.89%	-5.77%

The final step in calculating the RRIP target, illustrated in Figure 4, is to convert the Medicare target to an all-payer reduction target. The all-payer adjustment is based on the difference in the rate of change between CY 2015 and CY 2013 in the Medicare and all-payer readmission rates, which is 3.17 percentage points. This calculation produced an improvement target of 8.94 percent. Staff recommends setting a target of 9.50 percent to continue supporting strong performance in reducing readmissions in Maryland. Given that we met the Medicare target for CY 2015 with a 7.13 percent cumulative all-payer reduction, staff believes that 9.50 percent is a reasonably aggressive target for CY 2016.

**Figure 4. Calculations for Converting the Medicare Reduction Target to an All-Payer Target**

		Projection B
<b>Medicare Readmission % Change CY13-CY15</b>	<b>A</b>	-3.96%
<b>All-Payer Readmission % Change CY13- CY15</b>	<b>B</b>	-7.13%
<b>All-Payer Adjustment Factor</b>	<b>C=A-B</b>	3.17%
<b>CY 16 Medicare Readmission Rate Reduction Target from CY 13</b>	<b>D</b>	-5.77%
<b>CY 16 All-Payer Readmission Rate Reduction Target from CY 13</b>	<b>E=D-C</b>	<b>-8.94%</b>

One of the guiding principles of Maryland’s quality programs is to measure performance on an all-payer basis. CareFirst advocates establishing Medicare-specific targets to ensure that hospitals’ focus on Medicare reductions. To maintain all-payer measurement, CareFirst

suggested creating separate measurements and targets for the other payers. Staff and other stakeholders are concerned with this proposed approach because hospitals implement their programs for all patients regardless of payer status. Although converting the Medicare target to an all-payer target introduced further uncertainty for setting appropriate benchmarks, staff recommends keeping the all-payer approach since the state is meeting the Medicare target

In establishing a cumulative readmission reduction target for the RRIP for RY 2018, staff previously noted that it is important to strike a reasonable balance between the desire to set a target that is not unrealistically high and the need to conform to the requirements of the Model Agreement. With each passing year, underachievement in any particular year becomes increasingly hard to offset in the remaining years before CY 2018. Again, the consequence for not achieving the minimum annual reduction would be a corrective action plan and potentially the loss of the waiver from the Medicare HRRP. The consequences of not meeting the target are stated in the Model Agreement as follows:

*If, in a given Performance Year, Regulated Maryland Hospitals, in aggregate, fail to outperform the national Readmissions Rate change by an amount equal to or greater than the cumulative difference between the Regulated Maryland Hospitals and national Readmission Rates in the base period divided by five, CMS shall follow the corrective action and/or termination provisions of the Waiver of Section 1886(q) as set forth in Section 4.c and in Section 14.*

Requiring Maryland to conform to the national Medicare HRRP would reduce our ability to design, adjust, and integrate our reimbursement policies consistently across all payers based on local input and conditions. In particular, the national program is structured as a penalty-only system based on a limited set of conditions, whereas the Commission prefers to have the flexibility to implement much broader incentive systems that reflect the full range of conditions and causes of readmissions on an all-payer basis. Given that Maryland's readmission rate is still high compared with the national rate, some stakeholders supported a more aggressive target. Other stakeholders felt that because Maryland is making good progress toward meeting the Model Agreement requirement, the target should be less aggressive.

## **Measuring the Better of Attainment or Improvement**

In order to refine the methodology for RY 2018, the HSCRC solicited input from the Performance Measurement Workgroup. The Workgroup discussed pertinent issues and potential changes to Commission policy for RY 2018 that were approved by the Commission and reviewed the most recent performance data available. Workgroup members recommended to delay the final recommendations until the impact of socio-economic adjustments are better understood.

In the March draft report, HSCRC staff indicated that it was unable to measure whether a particular hospital has a low or high readmission rate, commonly referred to as "attainment" in

quality improvement. Since that time, staff has made progress in measuring attainment with assistance from Mathematica Policy Research and in filling in gaps in estimates for out-of-state readmissions using Medicare data. In our preliminary report, staff expressed a concern that hospitals with low initial readmission rates appeared to be unduly penalized under the RRIP improvement targets. Since that time, the Maryland Hospital Association (MHA), CareFirst, the HSCRC, and Mathematica Policy Research have been examining models to see if we can address the major concerns in measuring attainment (See Appendix IV for Mathematica's report). Staff greatly appreciates stakeholders' careful consideration and constructive suggestions to improve the current methodology.

Staff recommends adding a new component to the RRIP methodology to provide rewards or penalties contingent upon the level of readmission rates, based on MHA's proposed approach. MHA's proposal sets a statewide readmission attainment target (benchmark), similar to the current policy which sets an improvement target. Individual hospitals' performance relative to the statewide target would be tied to specific payment adjustment amounts, and hospitals would be evaluated on both attainment and improvement performance. The hospital's final payment adjustment would be based on the "better of" the two adjustments. MHA also supports linking performance milestones to pre-set payment adjustments to make the results predictable. (See Appendix V for MHA's proposal).

Staff believes that adequate progress has been made in developing a model that could be used in evaluating attainment and improvement. Below are the summary of the discussions and staff recommendations to move the program from improvement only measures to better of attainment and improvement.

MHA's letter of 5/25/16 with comments on the May 2016 draft updated policies for the Readmission Reduction Incentive Program, Potentially Avoidable Utilization (PAU) Savings Program, and on Aggregate Revenue Amount at Risk for Hospital Quality Programs is provided in a separate attachment file entitled: ***Attachment I\_RRIP\_PAU Shared Savings\_Aggregate at Risk\_2016.05.25\_MHA HSCRC Letter Quality for FY2018\_attachments.pdf***.

### ***Adjustment for Socio-Economic and Demographic Factors***

Substantial evidence exists that hospital readmission rates are affected to some degree by socioeconomic/demographic factors (SES/D)—such as income, education, race, and occupation—and that inclusion of these factors in the establishment of targets for readmission levels would likely improve the fairness of those targets for hospitals that have patient populations that are relatively disadvantaged. However, there is no consensus at this time regarding the precise impacts of these variables or about the best ways to collect such information on a patient-specific level. Research into the applicability and usefulness of indices of socioeconomic deprivation that are computed on a geographic basis (e.g., census tracts or neighborhoods) rather than a patient-specific basis is ongoing and promising, but this research is still in its formative stages. HSCRC formed a subgroup to discuss details on SES/D and

readmission rates. In addition to individual measures such as age, payer status, and race/ethnicity, the subgroup assessed the use of a geographic measure called the Area Deprivation Index (ADI). The ADI is a validated census-based measure available at the block-group level (neighborhood level containing between 600 and 3,000 people), first created in 2003 based upon the 2000 census by Singh and colleagues.<sup>7</sup> The ADI is a factor-based index with 17 census-based indicators assessing education, income, poverty, housing costs, housing quality, employment, and single-parent households. The HSCRC contracted with Dr. Amy Kind, the lead author of a seminal article showing a strong relationship between ADI and Medicare readmission rates, to update the 2000 ADI based on the 2009-2013 American Community Survey using a very similar methodology as Singh.

Mathematica's analysis found that the current adjustment methodology using APR-DRGs provides adequate risk adjustment, and including additional measures in the risk adjustment model - such as age, sex, Elixhauser Comorbidity Index,<sup>8</sup> primary payer, and updated ADI using 2013-2015 information<sup>9</sup> - does not substantially change the model accuracy and hospital rankings based on readmission rates. Although patients from deprived areas have significantly higher readmission rates independent of the hospital in which they were admitted, using fully adjusted risk models did not change the financial impact of the RRIP program significantly since the program measures improvement (see Appendix IV for Mathematica's executive summary of their final report).

Furthermore, the application of SES/D adjustments to hospital quality measures is a subject of national debate, requiring extensive discussions and stakeholder input to determine the policy implications and alternative methods of controlling for SES/D factors. The relationship between ADI and readmission rates is a complex one, and complicated statistical analyses may be needed to measure readmission rates with full risk adjustment. Most Workgroup members expressed a need for balance between precision in risk models and practicality for implementation. As we adjust readmission rates for additional factors, it becomes difficult for hospitals to understand and reproduce the methodology for monitoring purposes. Carefirst suggested an adjustment for Medicaid patients and to create two readmissions rates for the RRIP program to account for higher readmission rates for the disadvantaged patients. None of the risk adjustment models developed by Mathematica Policy Research and by the MHA had significant impact on the final payment adjustments for the RRIP program, diminishing the need for further risk adjustment beyond the current model based on APR-DRGs. Based on the input from Workgroup members and analysis results, HSCRC staff recommends continuing to use case-mix adjustment to

---

<sup>7</sup> For more information on the ADI, see <http://www.hipxchange.org/ADI>

<sup>8</sup> The Elixhauser Comorbidity Index is a method for measuring patient comorbidity based on patient diagnosis.

<sup>9</sup> Higher values of the index indicate higher levels of socioeconomic deprivation. For more information, see: <https://www.hipxchange.org/ADI>.

measure readmission rates for the RRIP program, as long as the program provides rewards for improvement rates.

### ***Adjustments for Out-of-State Readmissions***

Since HSCRC data include admissions from Maryland hospitals, an attainment model requires adjustment for readmissions occurring at non-Maryland hospitals. Currently, the only reliable source of out-of-state readmissions is monthly reports from CMMI. HSCRC validates CMMI reports using HSCRC data and Medicare claims that HSCRC has access to via the CMS data warehouse. The MHA proposes to use the information the state receives from CMS on Medicare readmissions occurring at out-of-state hospitals. Some Workgroup members expressed concern about only using Medicare information to calculate out-of-state readmissions because Medicare may not be representative of the experience of other payers. HSCRC staff recommends using Medicare information to adjust the readmission rates. Without this adjustment the attainment rates are biased for hospitals near the state borders. For example, based on the CMMI reports, the out-of-state readmission rate is equal to 30 percent of in-state readmissions for Fort Washington Medical Center. (Please see Appendix VIII for modeling results for Medicare out-of-state readmission ratios). Although the readmission experience of other patients may vary, Medicare ratios may be adequate as Medicare patients constitute more than 50 percent of readmissions, which has substantial impact on the all-payer readmission rates.

HSCRC staff will continue to collect more information from other payers to broaden the scope of this adjustment in future years. Additional clinical information could be made available from Medicare claims to help hospitals understand readmission patterns at out-of-state hospitals. Another source that can be used for both analytical and care transition programs is the readmission notifications provided by the Chesapeake Regional Information System for our Patients (CRISP), the state health information exchange. CRISP receives real-time data from hospitals located in the District of Columbia (D.C.) and Delaware. Six out of eight D.C. hospitals participate directly in CRISP, and the state is working on adding the final two: Children's and United Medical Center. Any time a Maryland resident arrives at a Delaware or D.C hospital, a readmission alert can be sent to any hospital that had a prior admission for that patient. CRISP also receives messages from Inova hospitals.

### ***Determination of an Attainment Target***

To establish payment scale based on readmission rates, the Commission would need to determine a benchmark where the rewards and penalties would start. The MHA proposes to use statewide average readmission rates as the benchmark for penalties and rewards. HSCRC staff and payer representatives at the Workgroup expressed a need to have benchmarks that are better than the state average given the high readmission rates in Maryland. Only two Maryland hospitals were statistically significantly better than the national average based on CMS Medicare hospital-wide readmission rates available at [hospitalcompare.gov](http://hospitalcompare.gov). One option might be to adjust the attainment target down to the national average rate using information from CMS Medicare readmission

trends. However, the HSCRC staff believes that attainment benchmarks need to be more stringent than the national average rates to improve readmission rates in Maryland. Figure 5 provides the distribution of CY 2015 readmission rates and the imputed national average.

**Figure 5. CY 2015 All-Payer Readmission Rates and Estimated National Average**

		<b>CY 2015 Case-Mix Adjusted Readmission Rates Adjusted for Out-of-State Readmissions</b>
<b>Lowest Readmission Rate</b>	A	9.72%
<b>Lowest 25th percentile</b>	B	12.09%
<b>State Average</b>	C	13.29%
<b>Highest 25th percentile</b>	D	14.16%
<b>Highest Readmission Rate</b>	E	16.59%
<b>MD/National Difference in Medicare Readmission Rates</b>	F	4.89%
<b>National Imputed Average for All-Payer</b>	$G=C*(1-F)$	12.64%

\* Medicare out-of-state readmissions are used for adjustments.

Staff recommends setting the benchmark at the lowest 25<sup>th</sup> percentile for RY 2017, which is 12.09 percent based on CY 2015 rates. Hospitals that meet this benchmark constitute 14 percent of total discharges and 11 percent of readmissions in the state. In other words, if the benchmarks were weighted by the number of discharges, 12.09 percent would be equal to the top 14 percent performance. Staff recommends using the unweighted lowest 25<sup>th</sup> percentile for the benchmark due to the high readmission rates in Maryland compared to the national rates. Moving forward, this benchmark needs to be updated to maintain the incentive for continuous improvement. Based on the input from the Workgroup, staff recommends adjusting this benchmark prospectively, rather than calculating the lowest 25th percentile concurrently with CY 2016 results. This will enable hospitals to have concrete targets and predict the payment impacts prospectively. Staff recommends reducing the benchmark by 2 percent to 11.85 percent, which is similar to the increase in the improvement target for CY 2016.

Compared to a reward and penalty structure that targeted 9.30 percent improvement, rewarding hospitals based on existing readmission rates may be perceived as reducing incentives for further improvement. Hospitals that have low readmission rates would not have incentives to improve if they are guaranteed to have a reward the next year. HSCRC maintains continuous improvement incentives in all programs by setting targets each year and by updating the points for payment adjustments (i.e., scaling). Figures 6 and 7 provide the targets and scaling points for RYs 2017 and 2018, respectively. Based on the RY 2017 targets, any hospital with 18 percent or higher reductions or any hospital with a readmission rate of 10.61 percent or lower would receive the maximum rewards of 1 percent inpatient revenue. The same scores in RY 2018 would result in smaller rewards (0.81 percent) due to updated targets and scaling points. HSCRC staff believes

that these two adjustments in the RRIP program will incentivize all hospitals to improve, as only maintaining CY 2015 levels would result in smaller rewards or even possible penalties.

**Figure 6. RY 2017 RRIP Adjustments**

**RY 2017 Scaling Points**

**Improvement Target: CY 13-CY15 Change =-9.30%**

**Attainment Benchmark: CY 2015 Readmission Rate=12.09%**

All-Payer Readmission Rate Change CY13-CY15	RRIP % Inpatient Revenue Payment Adjustment	All Payer Readmission Rate CY15	RRIP % Inpatient Revenue Payment Adjustment
A	C	D	F
<b>Lower</b>	<b>1.00%</b>	<b>Lower</b>	1.00%
-18.0%	1.00%	11.04%	1.00%
-15.0%	0.66%	11.41%	0.66%
-10.0%	0.08%	12.01%	0.08%
-9.3%	0.00%	12.09%	0.00%
-9.0%	-0.03%	12.13%	-0.03%
5.0%	-1.56%	13.82%	-1.56%
9.0%	-2.00%	14.31%	-2.00%
<b>Higher</b>	<b>-2.00%</b>	<b>Higher</b>	<b>-2.00%</b>

**Figure 7. RY 2018 RRIP Adjustments**

**RY 2018 Scaling Points**

**Improvement Target: CY 13-CY16 Change =-9.50%**

**Attainment Benchmark: CY 2016 Readmission Rate=11.85%**

All-Payer Readmission Rate Change CY13-CY16	RRIP % Inpatient Revenue Payment Adjustment	All Payer Readmission Rate CY16	RRIP % Inpatient Revenue Payment Adjustment
A	C	D	F
<b>Lower</b>	1.00%	<b>Lower</b>	1.00%
-20.0%	1.00%	10.61%	1.00%
-18.0%	0.81%	10.85%	0.81%
-15.0%	0.52%	11.20%	0.52%
-10.0%	0.05%	11.79%	0.05%
-9.5%	0.00%	11.85%	0.00%
-9.0%	-0.05%	11.91%	-0.05%
5.0%	-1.49%	13.57%	-1.49%
9.0%	-1.90%	14.05%	-1.90%
10.0%	-2.00%	14.16%	-2.00%
<b>Higher</b>	<b>-2.00%</b>	<b>Higher</b>	<b>-2.00%</b>



### **Adjustment of the Improvement Target**

If the changes to the measurement allow positive adjustments for hospitals, the required statewide improvement target may need to be increased to ensure that the Medicare readmission targets are met. Staff recommends keeping the improvement target at 9.50 percent as hospitals meeting the attainment benchmark constitute only 11 percent readmissions in the state.

### **The Link between Shared Savings and RRIP**

As mentioned in the overview, the HSCRC Savings Program prospectively adjusts hospital rates to achieve a specified statewide savings amount. For the past several years, the shared savings adjustment for each hospital was based on past readmission rates. Staff proposes to broaden the savings program to include additional categories of PAU. This proposal is described in a separate draft report.

CareFirst supports prospectively applying rate adjustments based on performance, and, in effect, blending the RRIP incentives with the Shared Savings Program adjustment (Appendix VI). The CareFirst proposal supports testing the relevance of adjusting hospital readmission rates based on its distribution of indigent and non-indigent patients. If there is a difference in readmission rates for these two patient cohorts statewide, CareFirst supports applying a proportional adjustment to each hospital's readmission rate and measuring hospital performance by blending their indigence/case-mix adjusted readmission rate and actual base year readmission rate. At this time, staff does not support blending the programs since we are planning to broaden the categories of PAU included in the Savings Program, both for RY 2017 and on an ongoing basis.

### **Considerations for the RY 2017 RRIP Policy**

One of the guiding principles for Maryland's hospital quality programs is to set the policy and benchmarks ahead of the performance periods. However, in light of the extensive changes in the RRIP policy for RY 2017, the Commission requested staff to examine the developing policy results during the performance period because of some potential payment equity issues. In approving a policy that sets improvement targets equally for all hospitals, there were concerns that individual hospitals might be penalized even though they were performing relatively well. For example, if the initial readmission rate for a hospital was relatively low, it may be harder to reduce the same percentage of readmissions as other hospitals with higher initial rates.

Staff has evaluated a RY 2018 approach based on the better of attainment or improvement to moderate adjustments in light of recent analysis. Given the substantial progress made in the attainment and improvement model for RY 2018, staff proposes to adopt a similar methodology for the RY 2017 time period. The modeling results based on the staff recommendations below are provided in Appendix VIII. Overall, the new approach would lower the statewide total penalties from \$36.3 million to \$28.9 million. The total rewards would increase from \$8.3

million to \$12.9 million. These effects combined would change the net impact of the RRIP, from -\$27.9 million to -\$16 million (see Appendix VII for the hospital level results).

## RECOMMENDATIONS

Based on this assessment, HSCRC staff recommends the following updates to the RRIP program for RY 2018:

1. The RRIP policy should continue to be set for all-payers.  
Staff supports this recommendation because Maryland continues to meet the CMS Medicare readmissions target and because hospitals implement their readmissions reduction programs for all patients, regardless of payer status.
2. Hospital performance should be measured as the better of attainment or improvement.  
Staff has worked closely with Mathematica Policy Research and stakeholders in the Performance Measurement Workgroup to refine the RRIP methodology. Staff supports this recommendation so that hospitals that started with particularly low or high readmission rates are not unfairly penalized.
3. The attainment benchmark should be set at 11.85 percent.  
Because Maryland's readmission rate is still higher than the nation, staff support an attainment benchmark of the lowest 25<sup>th</sup> percentile, which is projected to be 11.85 percent. Moving forward, this benchmark needs to be updated to maintain the incentive for continuous improvement.
4. The reduction target should be set at 9.50 percent from CY 2013 readmission rates.  
Staff believe that 9.50 percent is a reasonably aggressive target that will motivate improvement and keep the state on track toward meeting the CMS requirements.

Staff also recommends the following:

5. For RY 2017, apply the same methodology recommended for RY 2018 based on a 9.30 reduction target and 12.09 percent attainment benchmark.  
Given the substantial improvements made to the methodology for RY 2018, staff supports making these revisions for RY 2017 as well.

## APPENDIX I. HSCRC CURRENT READMISSIONS MEASURE SPECIFICATIONS

### 1) Performance Metric

The methodology for the Readmissions Reduction Incentive Program (RRIP) measures performance using the 30-day all-payer all hospital (both intra and inter hospital) readmission rate with adjustments for patient severity (based upon discharge all-patient refined diagnosis-related group severity of illness [APR-DRG SOI]) and planned admissions.

The measure is very similar to the readmission rate that will be calculated for the new All-Payer Model with a few exceptions. For comparing Maryland's Medicare readmission rate to the national readmission rate, the Centers for Medicare & Medicaid Services (CMS) will calculate an unadjusted readmission rate for Medicare beneficiaries. Since the Health Services Cost Review Commission (HSCRC) measure is for hospital-specific payment purposes, adjustments had to be made to the metric that accounted for planned admissions and SOI. See below for details on the readmission calculation for the program.

### 2) Adjustments to Readmission Measurement

The following discharges are removed from the numerator and/or denominator for the readmission rate calculations:

- Planned readmissions are excluded from the numerator based upon the CMS Planned Readmission Algorithm V. 3.0. The HSCRC has also added all vaginal and C-section deliveries as planned using the APR-DRGs rather than principal diagnosis (APR-DRGs 540, 541, 542, 560). Planned admissions are counted in the denominator because they could have an unplanned readmission.
- Discharges for newborn APR-DRG are removed.
- Admissions with ungroupable APR-DRGs (955, 956) are not eligible for a readmission but can be a readmission for a previous admission.
- Hospitalizations within 30 days of a hospital discharge where a patient dies is counted as a readmission, however the readmission is removed from the denominator because there cannot be a subsequent readmission.
- Admissions that result in transfers, defined as cases where the discharge date of the admission is on the same or next day as the admission date of the subsequent admission, are removed from the denominator counts. Thus, only one admission is counted in the denominator and that is the admission to the transfer hospital. It is this discharge date that is used to calculate the 30-day readmission window.
- Discharges from rehabilitation hospitals (provider ids Chesapeake Rehab 213028, Adventist Rehab 213029, and Bowie Health 210333).

- Holy Cross Germantown is excluded from the program until it has one full year of base period data; Levindale is included in the program; and chronic beds within acute care hospitals are excluded for this year but will be included in future years.
- In addition, the following data cleaning edits are applied:
  - Cases with null or missing Chesapeake Regional Information System unique patient identifiers (CRISP EIDs) are removed.
  - Duplicates are removed.
  - Negative interval days are removed.
  - HSCRC staff is revising case-mix data edits to prevent submission of duplicates and negative intervals, which are very rare. In addition, CRISP EID matching benchmarks are closely monitored. Currently, 99 percent of inpatient discharges have a CRISP EID.

### **3) Improving Accuracy of Maryland and National Readmission Rate Comparison**

In addition to the above adjustments, below are the specification changes made to allow an accurate comparison of Maryland's Medicare readmission rates with those of the nation.

- Requiring a 30-day enrollment period in fee-for-service (FFS) Medicare after hospitalization to fully capture all readmissions.
- Removing planned readmissions using the CMS planned admission logic for consistency with the CMS readmission measures.
- Excluding specially-licensed rehabilitation and psychiatric beds from Maryland rates due to inability to include these beds in national estimates due to data limitations. In contrast, the HSCRC includes psychiatric and rehabilitation readmissions in the all-payer readmission measure used for payment policy.
- Refining the transfer logic to be consistent with other CMS readmission measures.
- Changing the underlying data source to ensure clean data and inclusion of all appropriate Medicare FFS claims (e.g., adjusting the method for calculating claims dates and including claims for patients with negative payment amounts).

### **4) Details on the Calculation of Case-Mix Adjusted Readmission Rate**

#### **Data Source:**

To calculate readmission rates for the RRIP, the inpatient abstract/case-mix data with CRISP EIDs (so that patients can be tracked across hospitals) is used for the measurement period plus an extra 30 days. To calculate the case-mix adjusted readmission rate for the CY 2013 base period

and the CY 2016 performance period, data from January 1 through December 31, plus 30 days in January of the next year would be used.

**SOFTWARE:** APR-DRG Version 32

**Calculation:**

$$\text{Risk-Adjusted Readmission Rate} = \frac{\text{(Observed Readmissions)}}{\text{(Expected Readmissions)}} \times \text{Statewide Readmission Rate}$$

**Numerator:** Number of observed hospital specific unplanned readmissions.

**Denominator:** Number of expected hospital specific unplanned readmissions based upon discharge APR-DRG and Severity of Illness. See below for how to calculate expected readmissions adjusted for APR-DRG SOI.

**Risk Adjustment Calculation:**

- Calculate the Statewide Readmission Rate without Planned Readmissions.
  - Statewide Readmission Rate = Total number of readmissions with exclusions removed / Total number of hospital discharges with exclusions removed.
- For each hospital, calculate the number of observed unplanned readmissions.
- For each hospital, calculate the number of expected unplanned readmissions based upon discharge APR-DRG SOI (see below for description). For each hospital, cases are removed if the discharge APR-DRG and SOI cells have less than two total cases in the base period data (CY 2013).
- Calculate the ratio of observed (O) readmissions over expected (E) readmissions. A ratio of > 1 means that there were more observed readmissions than expected based upon that hospital's case mix. A ratio < 1 means that there were fewer observed readmissions than expected based upon that hospital's case mix.
- Multiply O/E ratio by the statewide rate to get risk-adjusted readmission rate by hospital.

**Expected Values:**

The expected value of readmissions is the number of readmissions a hospital, given its mix of patients as defined by discharge APR-DRG category and SOI level, would have experienced had its rate of readmissions been identical to that experienced by a reference or normative set of hospitals. Currently, HSCRC is using state average rates as the benchmark.

The technique by which the expected value or expected number of readmissions is calculated is called indirect standardization. For illustrative purposes, assume that every discharge can meet the criteria for having a readmission, a condition called being “at risk” for a readmission. All discharges will either have no readmissions or will have one readmission. The readmission rate is the proportion or percentage of admissions that have a readmission.

The rates of readmissions in the normative database are calculated for each APR-DRG category and its SOI levels by dividing the observed number of readmissions by the total number of discharges. The readmission norm for a single APR-DRG SOI level is calculated as follows:

Let:

N = norm

P = Number of discharges with a readmission

D = Number of discharges that can potentially have a readmission

i = An APR DRG category and a single SOI level

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

For this example, this number is displayed as readmissions per discharge to facilitate the calculations in the example. Most reports will display this number as a rate per one thousand.

Once a set of norms has been calculated, they can be applied to each hospital. For this example, the computation is for an individual APR-DRG category and its SOI levels. This computation could be expanded to include multiple APR-DRG categories or any other subset of data, by simply expanding the summations.

Consider the following example for an individual APR DRG category.

#### Expected Value Computation Example

1 Severity of Illness Level	2 Discharges at Risk for Readmission	3 Discharges with Readmission	4 Readmissions per Discharge	5 Normative Readmissions per Discharge	6 Expected # of Readmissions
1	200	10	.05	.07	14.0
2	150	15	.10	.10	15.0
3	100	10	.10	.15	15.0
4	50	10	.20	.25	12.5

<b>Total</b>	<b>500</b>	<b>45</b>	<b>.09</b>		<b>56.5</b>
--------------	------------	-----------	------------	--	-------------

For the APR-DRG category, the number of discharges with readmission is 45, which is the sum of discharges with readmissions (column 3). The overall rate of readmissions per discharge, 0.09, is calculated by dividing the total number of discharges with a readmission (sum of column 3) by the total number of discharges at risk for readmission (sum of column 2), i.e.,  $0.09 = 45/500$ . From the normative population, the proportion of discharges with readmissions for each SOI level for that APR-DRG category is displayed in column 5. The expected number of readmissions for each SOI level shown in column 6 is calculated by multiplying the number of discharges at risk for a readmission (column 2) by the normative readmissions per discharge rate (column 5) The total number of readmissions expected for this APR-DRG category is the expected number of readmissions for the SOI.

In this example, the expected number of readmissions for this APR-DRG category is 56.5, compared to the actual number of discharges with readmissions of 45. Thus, the hospital had 11.5 fewer actual discharges with readmissions than were expected for this APR-DRG category. This difference can also be expressed as a percentage.

APR-DRGs by SOI categories are excluded from the computation of the actual and expected rates when there are only zero or one at risk admission statewide for the associated APR-DRG by SOI category.

## **APPENDIX II. CMS MEDICARE TEST READMISSION MEASURE VERSION 5 CHANGES**

Below are the specification changes made to allow an accurate comparison of Maryland's Medicare readmission rates with those of the nation.

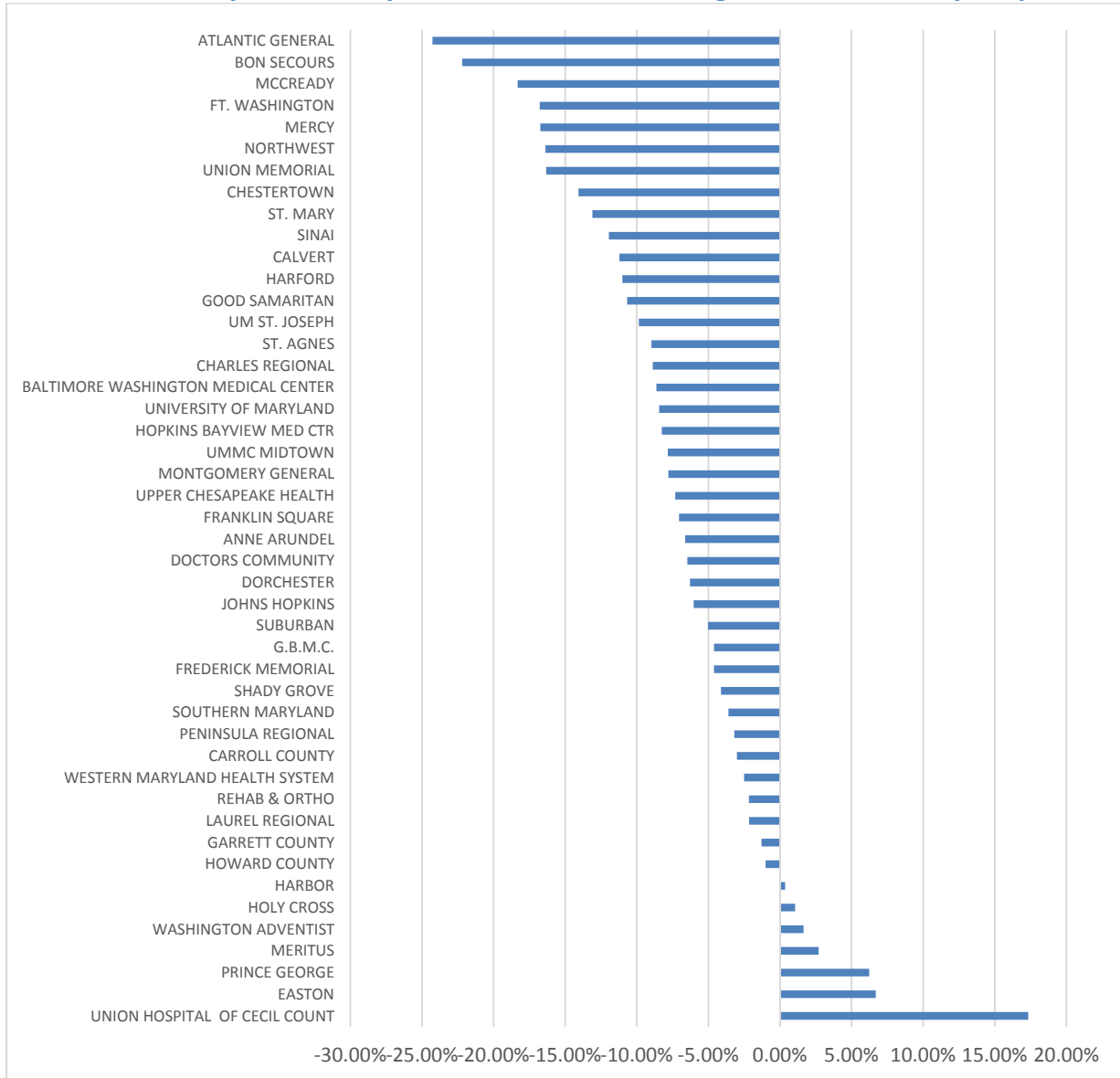
- Requiring a 30-day enrollment period in fee-for-service (FFS) Medicare after hospitalization to fully capture all readmissions.
- Removing planned readmissions using the CMS planned admission logic for consistency with the CMS readmission measures.
- Excluding specially-licensed rehabilitation and psychiatric beds from Maryland rates due to inability to include these beds in national estimates due to data limitations. In contrast, the HSCRC includes psychiatric and rehabilitation readmissions in the all-payer readmission measure used for payment policy.
- Refining the transfer logic to be consistent with other CMS readmission measures.
- Changing the underlying data source to ensure clean data and inclusion of all appropriate Medicare FFS claims (e.g., adjusting the method for calculating claims dates and including claims for patients with negative payment amounts).



### APPENDIX III. ALL-PAYER HOSPITAL-LEVEL READMISSION RATE CHANGE CY 2015-2013

The following figure presents the change in all-payer case-mix adjusted readmissions by hospital between CY 2013 and CY 2015 (Final calculations with ICD-10 Corrections).

Case-Mix Adjusted All-Payer Readmission Rate Change, CY 2015-2013, by Hospital



**APPENDIX IV. REPORT BY MATHEMATICA POLICY RESEARCH – DEVELOPMENT  
OF A RISK-ADJUSTED READMISSION RATE: SUMMARY OF FINDINGS**

# REPORT

## **Development of a Risk-Adjusted Readmission Rate: Summary of Findings**

June 2, 2016

---

Matthew J. Sweeney

Dan Kinber

Xiaojing Lin

Sarah Schoenfeldt

---

Submitted to:

Maryland Health Services Cost Review Commission

4160 Patterson Avenue

Baltimore, MD 21215

Project Officer: Sule Gerovich

Contract Number: M00B6400189

---

Submitted by:

Mathematica Policy Research

955 Massachusetts Avenue

Suite 801

Cambridge, MA 02139

Telephone: (617) 491-7900

Facsimile: (617) 491-8044

Project Director: Eric Schone

Reference Number: 50133

---

## CONTENTS

---

A.	OVERVIEW.....	1
B.	RESEARCH OBJECTIVES.....	1
C.	KEY FINDINGS.....	2
D.	LIMITATIONS.....	3
E.	RECOMMENDATIONS.....	3

EXHIBITS

---

1 Summary of models tested and performance statistics ..... 5

2 Correlation between ADI and readmissions ..... 6

3 Correlation of CY 2013 rates across select models..... 8

4 Impact of risk-adjustment on rates on improvements ..... 8

## A. Overview<sup>10</sup>

Hospital readmission rates in the state of Maryland historically have been significantly higher than the national average. Through its waiver agreement with the Center for Medicare and Medicaid Innovation (CMMI), the state must reduce its average 30-day readmission rate among Medicare fee-for-service beneficiaries to the national average readmission rate by 2018. Progress toward this goal is monitored by CMMI each year. Meeting the terms of the waiver agreement is challenging because of Maryland's high readmission rate at baseline, and because the national readmission rate has been decreasing in recent years.

The Health Services Cost Review Commission (HSCRC) developed the Readmissions Reduction Incentive Program (RRIP) to incentivize reductions in readmissions in the state. The program is based on hospital performance on a measure of all-payer readmissions, in line with the state's all-payer approach to health care finance reform. Hospital performance in the program is assessed by measuring improvement (reductions) in hospital readmission rates from a baseline readmission rate. The baseline rate is currently based on performance during calendar year (CY) 2013. HSCRC sets improvement targets each year and applies financial adjustments to hospitals' budgets based on their ability to meet those targets.

## B. Research objectives

The primary goal of our analysis is to assess how HSCRC calculates the expected number of readmissions at each hospital, which affects the risk-adjusted readmission rate (RARR) used in the RRIP. The current approach relies on an indirect standardization method that adjusts a hospital's expected number of readmissions based on its distribution of inpatient stays across each combination of All Patient Refined Diagnosis Related Group (APR-DRG) and Severity of Illness (SOI). To assess this method, we estimate logistic regressions, taking as the dependent variable readmission within 30 days, to perform the following key steps:

### 1. **Estimate a regression-based version of the current indirect standardization method.**

We estimate an APR-DRG SOI fixed effects regression, which yields mathematically equivalent numbers of expected readmissions. This allows us to assess the baseline predictive ability (via the c-statistic) and the percentage of variation explained (via the r-square) of the current approach. We also compare the hospital ranks produced by the current approach to ranks produced by CMS' Hospital-Wide Readmission (HWR) measure. We do so to assess how well the HSCRC approach captures hospital performance, relative to CMS's well-vetted model. HSCRC measure is based on all-payer readmission rate, while CMS HWR measure only measures Medicare patients.

---

<sup>10</sup> This summary is based on Mathematica's analyses that can be found in "Final Report: Development of a Risk-Adjusted Readmission Rate and Peer Grouping Strategy", June 2016.

2. **Test the impact of controlling for other patient-level covariates, like age, gender, comorbidities, primary payer, and socio-economic status.** Once we establish the baseline regression, we assess how adding covariates impacts model performance and investigate the correlation of the additional covariates with the probability of readmission. We use the Area Deprivation Index (ADI) as a measure of patient socioeconomic status.<sup>11</sup>

3. **Assess the impacts of alternate model specifications on hospitals' RARRs and improvement rates.** For each model specification, we examine the impact of the new model on hospital performance, relative to the baseline model. This enables us to observe whether particular covariates, or combinations of covariates, have larger impacts on hospitals' baseline rates and/or rates of improvement or whether particular hospitals have larger deviations from baseline than others. The various models we run change the set of covariates included as explanatory variables.

### C. Key findings

The risk-adjustment analysis yielded a few clear findings and considerations:

1. **The current HSCRC methodology yields predictive ability that is greater than other readmission measures that are widely used.** The current approach yields a c-statistic of .712, which meets the “rule of thumb” threshold of .70 for acceptable predictive ability of a model (see Exhibit 1), and is greater than the c-statistic of CMS' HWR measure and each of the condition- and procedure-specific readmission measures used in CMS' Hospital Readmission Reduction Program (all have a c-statistic of less than .70).<sup>12</sup>
2. **The addition of covariates improves model predictive power marginally, relative to baseline.** APR-DRG SOI categories appear to be the most powerful predictors of readmissions, relative to other covariates. (Exhibit 1).
3. **The baseline model yields hospital ranks that are positively correlated with the ranks from the CMS HWR measure.** The correlation coefficient between the ranks was .69 (data not shown). Perfect correlation was not expected across the two measures, given the underlying differences in data, time frame, patient population, covariates, and statistical methods. However, the positive correlation evidences the validity of the current method, suggesting that it measures “true” hospital performance and is a useful tool for assessing attainment within the RRIP.
4. **ADI is correlated with the probability of readmission at the patient-level, and the magnitude of the association is slightly attenuated when hospital fixed effects are**

---

<sup>11</sup> For information on the development and content of the ADI, see: <https://www.hipxchange.org/ADI>

<sup>12</sup> See the CMS readmission measure methodology reports, available here:

<https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPPage%2FQnetTier4&cid=1219069855841>

**included in the model (Exhibit 2).** Patients from areas at the highest end of the ADI distribution have higher odds of readmission, although those odds decrease slightly when hospital fixed effects are included. This suggests that some portion of the relationship between patient-level ADI and probability of readmission is driven by hospital-level factors.

5. **Compared to the baseline, hospital rankings for readmission rates and improvement are not impacted greatly by adjustment using a model containing other available patient-level characteristics. (Exhibits 3 and 4).** The correlations between CY 2013 RARRs derived from the baseline model and Models 15, and Models 18 – 20 are all greater than .90. The risk-adjusted models yield improvement rates that are generally similar to the improvement rates from the baseline model. For example, Exhibit 4 shows that improvement rates from Model 20 are close to baseline improvement rates, and become slightly larger. Adding a hospital-level covariate such as a hospital's proportion of high ADI patients reduces correlation with the baseline substantially ( $r=.616$ ).
6. **APR-DRG fixed effects can be replaced by APR-DRG readmission norms to reduce computational intensiveness.** We found that a model based on CY 2013 norms (Model 15) yielded almost identical results as the baseline model and is much simpler to estimate because it replaces over 1,000 dummy variables with a single continuous variable. The norms are similar to APR-DRG weights but calibrated to 30-day readmissions, as opposed to resource use.
7. **Incorporating comorbidities into RRIP requires defining covariates over both ICD-9 and ICD-10 data.** Some of the covariates that we tested are sensitive to the underlying form of the diagnosis codes. For example, the Elixhauser co-morbidity algorithm reads diagnosis codes and creates flag for whether a diagnosis code indicates a co-morbid condition. Implementing a risk-adjusted model that uses Elixhauser co-morbidities as covariates will require the use of both an ICD-9 and an ICD-10 version of the algorithm.

#### D. Limitations

There are a few limitations to this analysis. First, our assessment of the impact of adopting alternate risk-adjusted models on the measurement of hospital performance focused on how they affect improvement, reflecting the current design of the RRIP. If the design of the RRIP were to be changed to incentivize attainment, we recommend additional analyses to compare impacts of the various models on attainment. Second, measurement of improvement from CY 2013 to CY 2015 was incomplete due to the ICD-10 diagnosis codes used in 2015; all analyses on improvement used rates calculated on data in which the fourth quarters of 2013 and 2015 were excluded. Third, none of these risk-adjustment approaches addresses the issue that hospitals with relatively low readmission rates in CY 2013 have less opportunity for improvement than other hospitals. This issue would have to be addressed through the policy design. Finally, at this time, neither statistical reliability nor validity of these models has been comprehensively assessed.



## E. Recommendations

Based on these findings, we do not see compelling evidence that HSCRC should change its risk-adjustment methodology at this time. APR-DRG SOI categories appear to contain much of the predictive and explanatory information that other potential covariates contribute to the model. As noted above, if HSCRC decides to adopt an alternate risk-adjusted model, it should consider (1) adopting a model based on CY 2013 norms to reduce computation times, (2) planning and testing for the implementation of the model on ICD-10 data, and (3) performing additional tests of the impacts of the model on hospital performance measurement (attainment and improvement).

Exhibit 1. Summary of models tested and performance statistics

Model	Controls	c-statistic	Max-rescaled R square
Baseline	APR-DRG SOI Fixed Effects	0.712	0.128
B2	ADI Vigintiles	0.547	0.006
Model 1	APR-DRG SOI Fixed Effects and ADI Vigintiles	0.715	0.131
Model 2	Baseline Plus Gender and Age	0.713	0.129
Model 3	Model 2 Plus Elixhauser Comorbidities	0.728	0.144
Model 3P	Model 3 Plus Payer	0.732	0.149
Model 4	Model 3 Plus ADI Vigintiles	0.730	0.146
Model 4P	Model 3P Plus ADI Vigintiles	0.733	0.150
Model 5	APR-DRG Weight	0.594	0.010
Model 6	Model 5 Plus Gender and Age	0.599	0.030
Model 7	Model 6 Plus Elixhauser Comorbidities	0.688	0.086
Model 8	Model 7 Plus ADI Vigintiles	0.690	0.089
Model 9	CY 2013 Norms (linear)	0.712	0.114
Model 10	Model 9 Plus ADI Vigintiles	0.714	0.117
Model 11	Model 9 Plus Gender and Age	0.712	0.117
Model 12	Model 11 Plus Elixhauser Comorbidities	0.726	0.132
Model 13	Model 12 Plus Payer	0.729	0.136
Model 14	Model 13 Plus ADI Vigintiles	0.730	0.137
Model 15	CY 2013 Norms (logged)	0.712	0.127
Model 16	Model 15 Plus ADI Vigintiles	0.715	0.130
Model 17	Model 15 Plus Gender and Age	0.713	0.129
Model 18	Model 17 Plus Elixhauser Comorbidities	0.726	0.142
Model 19	Model 18 Plus Payer	0.730	0.147
Model 20	Model 19 Plus ADI Vigintiles	0.731	0.148
Model 21	Model 20 Plus Hospital-level control for High ADI	0.732	0.149

Source: Mathematica analysis of CY 2013 Readmissions data provided by HSCRC.

- Notes:
- (1) Elixhauser comorbidities were identified using the diagnostic information on the index stay.
  - (2) ADI = Area Deprivation Index. Mathematica used the values carried on the file provided by HSCRC.
  - (3) The ADI vigintile indicators reflect the placement of the ADI value in the national distribution of ADI values.
  - (4) Hospital-level control for High ADI (Model 21) is the percentage of patients from the 85th or higher percentile in the ADI distribution that were discharged by the hospital in 2013.

Exhibit 2. Relation between ADI and readmissions

ADI vigintile	Without hospital fixed effects		With hospital fixed effects	
	Odds ratio	p-value	Odds ratio	p-value
1st (lowest)	1.173	<.0001	1.186	<.0001
2nd	1.250	<.0001	1.267	<.0001
3rd	1.227	<.0001	1.254	<.0001
4th	1.261	<.0001	1.289	<.0001
5th	1.198	<.0001	1.232	<.0001
6th	1.220	<.0001	1.253	<.0001
7th	1.197	<.0001	1.244	<.0001
8th	1.300	<.0001	1.342	<.0001
9th	1.243	<.0001	1.284	<.0001
10th	1.305	<.0001	1.329	<.0001
11th	1.298	<.0001	1.312	<.0001
12th	1.234	<.0001	1.250	<.0001
13th	1.209	<.0001	1.224	<.0001
14th	1.314	<.0001	1.327	<.0001
15th	1.313	<.0001	1.331	<.0001

ADI vigintile	Without hospital fixed effects		With hospital fixed effects	
	Odds ratio	p-value	Odds ratio	p-value
16th	1.321	<.0001	1.316	<.0001
17th	1.335	<.0001	1.316	<.0001
18th	1.317	<.0001	1.282	<.0001
19th	1.397	<.0001	1.303	<.0001
20th (highest)	1.378	<.0001	1.252	<.0001
ADI Missing	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>

Source: Source: Mathematica analysis of CY 2013 Readmissions data provided by HSCRC.

Notes: (1) ADI = Area Deprivation Index. Mathematica used the values carried on the file provided by HSCRC.  
(2) The table reports the odd ratios on the indicator variables for each vigintile of the ADI Distribution from estimating Model 20 with and without hospital fixed effects.

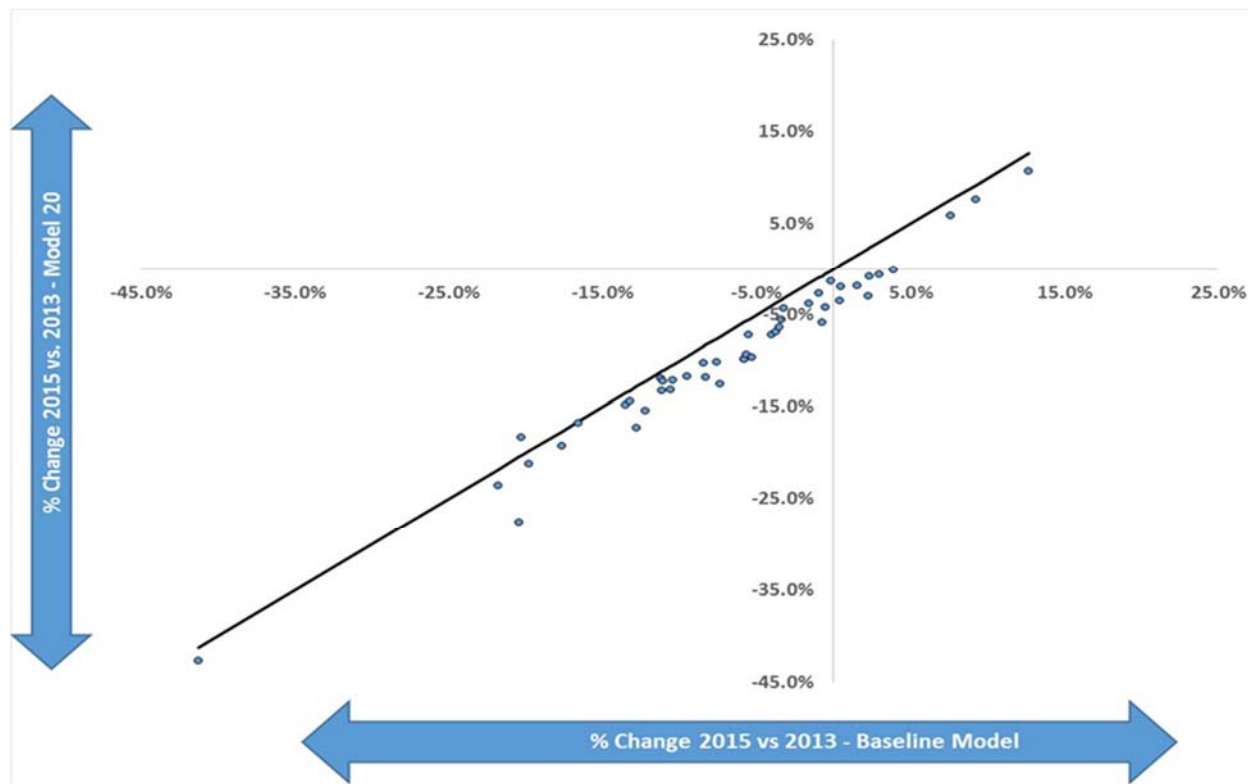
Exhibit 3. Correlation of CY 2013 hospital rates across select models

	Baseline	Model 15	Model 18	Model 19	Model 20	Model21
Baseline	1.000	0.999	0.964	0.943	0.908	0.616
Model 15	0.999	1.000	0.965	0.944	0.909	0.617
Model 18	0.964	0.965	1.000	0.992	0.978	0.756
Model 19	0.943	0.944	0.992	1.000	0.992	0.801
Model 20	0.908	0.909	0.978	0.992	1.000	0.856
Model 21	0.616	0.617	0.756	0.801	0.856	1.000

Source: Mathematica analysis of CY 2013 Readmissions data provided by HSCRC.

- Notes: (1) Models 1) Models 15 and 18 – 21 use the CY 2013 norms as a basis, in place of the individual APR-DRG SOI fixed effects.  
 (2) Each of the correlation coefficients reported in the table are statistically significant at the <.0001 level.

Exhibit 4. Impact of risk-adjustment on rates on improvements



Source: Mathematica analysis of 2013 and 2015 Readmissions data provided by HSCRC.

- Notes: (1) Quarter 4 of 2013 and 2015 have been excluded because of discharges containing ICD10 in Q42015.

---

# Improving public well-being by conducting high quality, objective research and data collection

---

PRINCETON, NJ ■ ANN ARBOR, MI ■ CAMBRIDGE, MA ■ CHICAGO, IL ■ OAKLAND, CA ■ WASHINGTON, DC

Mathematica® is a registered trademark  
of Mathematica Policy Research, Inc.

---

**MATHEMATICA**  
Policy Research

---

## **APPENDIX V. SUMMARY OF THE MARYLAND HOSPITAL ASSOCIATION RATE YEAR 2018 RRIP PROGRAM PROPOSAL**

### **MHA Readmissions Policy Recommendations**

April 2016

MHA is recommending a readmissions policy that includes consideration of the readmission rate that a hospital attains (the hospital's rate compared to a target rate) and how much the hospital has improved its readmission rate compared to its own performance in a base period. The MHA recommendations for an attainment and improvement policy can be added to the HSCRC's current approach that sets an improvement target and ties specific improvement milestones to payment adjustment. The MHA approach can also be used with the current risk model—statewide readmission rates, or “norms”—or one of the more sophisticated risk models in development. MHA's preference is for a risk model that moves beyond the norms and includes additional factors such as age, gender, primary payer, additional chronic co-morbid conditions and measures of neighborhood socio-economic status; however, we recognize that these models are still in development and need to be fully vetted before they are used in a payment policy.

To include both attainment and improvement in the readmissions policy, MHA proposes to set a statewide risk-adjusted readmission attainment target, similar to the current policy which sets an improvement target. Individual hospitals' performance relative to the statewide risk-adjusted target would be tied to specific payment adjustment amounts, and hospitals would be evaluated on both attainment and improvement performance. The hospital's final payment adjustment would be the “better of” the two adjustments.

The chart below shows how the performance milestones could be linked to pre-set payment adjustments. For example, if a hospital's readmission rate in the performance year is 3.0 percent above (worse than) the target, the hospital would score a 0.25 percent attainment penalty. However, if that hospital had improved its readmission rate by 7.5 percent, it would score a 0.72 percent improvement reward. The actual payment adjustment would be the better of the two scores, or a positive 0.72 percent adjustment. Similarly, if a hospital's readmission rate is 5.5 percent below the target, the hospital would score a 0.51 percent payment increase for attainment. On the improvement scale, if the hospital had improved compared to its base rate by 2.0 percent, its improvement payment adjustment score would be a positive 0.15 percent. The actual payment adjustment would be the better of the two scores, or a 0.51 percent positive adjustment. A hospital with a readmission rate worse than the target and that fails to improve would receive a negative payment adjustment.

Final Recommendations for the Readmissions Reduction Incentive Program for Rate Year 2018

Attainment Payment Scale				Improvement Payment Scale			
	Performance vs Target	Payment Adjustment			Percent Improvement	Payment Adjustment	
Outperform target by	-20.0%	2.00%	Max attainment reward		Performance improves	2.00%	Max improvement reward
	-15.0%	1.50%				1.50%	
	-12.3%	1.20%				1.20%	
	-10.3%	1.00%				1.00%	
	-7.5%	0.72%				0.72%	
	-5.5%	0.51%				0.51%	
	-3.0%	0.25%				0.25%	
	-2.0%	0.15%				0.15%	
-1.0%	0.05%	0.05%					
Target	0.0%	0.00%					
Miss target by	1.0%	-0.05%	Max attainment penalty		Performance declines	-0.05%	Max improvement pe
	2.0%	-0.15%				-0.15%	
	3.0%	-0.25%				-0.25%	
	5.5%	-0.51%				-0.51%	
	7.5%	-0.72%				-0.72%	
	10.3%	-1.00%				-1.00%	
	12.3%	-1.20%				-1.20%	
	15.0%	-1.50%				-1.50%	
20.0%	-2.00%	-2.00%					

This approach includes several features that have worked well in the HSCRC’s Quality Based Reimbursement and Maryland Hospital Acquired Conditions programs. The “better of” attainment or improvement is designed to “raise all boats” by providing an incentive to achieve best performance for all hospitals regardless of where on the spectrum they are starting. In addition, the use of defined performance targets and evaluation of individual hospital performance relative to those targets tied to payment adjustments provides a clear goal and predictable revenue consequences that hospitals can monitor progress toward throughout the year. Because the approach is straightforward, it requires little to no additional work to implement and could be accomplished using the current readmissions reporting and tracking systems.



## **APPENDIX VI. SUMMARY OF THE CAREFIRST RATE YEAR 2018 RRIP PROGRAM PROPOSAL**

### **Summary of the CareFirst Proposal to modify the RRIP and Combine it with the HSCRC's RSSP**

In response to complaints from hospitals regarding a potential unfairness in the Readmission Reduction Incentive Program (RRIP) policy, the HSCRC staff revised the RRIP methodology to reduce the uniform readmission rate reduction percentage for hospitals with lower base year readmission rate attainment levels. This modification was based on a presumption that hospitals with low readmission rates may have less opportunity to reduce their readmission rates at the same percentage than hospitals with higher base year readmission rates. However, in making this modification to the RRIP policy, the staff did not account for certain factors (i.e., a hospital's number of out-of-state readmissions or the Socio-Economic Status (SES) of a hospital's patients), which can have a substantial (both positive and negative) impact on hospital readmission rate attainment levels.

Also, given the multitude of overlapping incentives in the rate setting system for readmission reduction, many representatives of the HSCRC's Performance Measurement Work Group (PMWG) have suggested that the Commission staff consider the development of a single incentive-based readmission policy that would combine elements of the RRIP and the HSCRC' Readmission Shared Saving Program (RSSP), address certain issues in the measurement of readmission attainment, improvement performance and hopefully streamline the Commission's overall attempt to incentivize hospitals to reduce unnecessary readmissions.

CareFirst's proposed modification to the RRIP and RSSP draws on previous HSCRC policy approaches (specifically the HSCRC's Uncompensated Care and Disproportionate Share methodologies) that attempted to address similar policy issues and proposes a method for combining the RSSP and the RRIP methodologies into one integrated readmission incentive structure. The proposed approach includes suggested adjustments to improve the overall fairness of a readmission performance assessment by taking into consideration the Socio-Economic Status (SES) of a hospital's patients, its level of out-of-state readmissions and its base year readmission rate attainment level. Finally, the proposal recommends combining elements of the HSCRC's RSSP and RRIP into a single program that takes into account both readmission attainment and improvement, unifies and strengthens the incentives for hospitals to reduce their readmissions and provides flexibility for the HSCRC to incorporate other categories of unnecessary hospital utilization, such as the Patient Quality Indicators (PQIs), into the methodology in future years.

### APPENDIX VII. RY 2017 IMPROVEMENT AND ATTAINEMENT MODEL RESULTS

The following figure presents the proposed CY 2016 readmission target rates. Columns A and B show the hospital’s actual case-mix adjusted readmission rates for CYs 2013 and 2015 respectively; column C shows the percent change between the two years. Columns D through G present the scaling results using the current methodology, and columns H through L present the scaling results using the proposed attainment methodology. (FY 16 Permanent Global Budgets and Readmission Rates are updated from the draft recommendation)

Hospital Name	CY 13 Case-Mix Adjusted Rate Adjusted for Out of State A	CY 15 Case-Mix Adjusted Rate Adjusted for Out of State B	% Change In In-state readmission Rate C	Improvement Scaling (Current)				Attainment (Proposed)				
				Target D	Over/Under Target E=C-D	FY 17 Scaling F	FY 17 Adjustment G	Target (Best % 25 in CY15) H	Over/Under Target I	FY 17 Scaling J	FY 17 Adjustment K	FY17 Better of Attainment/Improvement L=(G or K)
ATLANTIC GENERAL	14.15%	10.91%	-24.27%	-9.3%	-15.0%	1.00%	\$377,503	12.09%	-9.8%	1.00%	\$377,503	\$377,503
BON SECOURS	20.69%	16.29%	-22.18%	-9.3%	-12.9%	1.00%	\$747,897	12.09%	34.7%	-2.00%	-\$1,495,794	\$747,897
MCCREADY	13.05%	10.66%	-18.31%	-9.3%	-9.0%	1.00%	\$28,152	12.09%	-11.9%	1.00%	\$28,152	\$28,152
FT. WASHINGTON	17.84%	15.09%	-16.77%	-9.3%	-7.5%	0.86%	\$169,027	12.09%	24.8%	-2.00%	-\$393,495	\$169,027
MERCY	16.09%	13.37%	-16.73%	-9.3%	-7.4%	0.85%	\$1,829,580	12.09%	10.5%	-1.15%	-\$2,462,822	\$1,829,580
NORTHWEST	16.13%	13.63%	-16.38%	-9.3%	-7.1%	0.81%	\$928,955	12.09%	12.7%	-1.39%	-\$1,589,234	\$928,955
UNION MEMORIAL	15.43%	12.92%	-16.33%	-9.3%	-7.0%	0.81%	\$1,924,508	12.09%	6.8%	-0.74%	-\$1,769,936	\$1,924,508
CHESTERTOWN	15.51%	13.65%	-14.07%	-9.3%	-4.8%	0.55%	\$118,368	12.09%	12.8%	-1.40%	-\$302,789	\$118,368
ST. MARY	14.96%	12.89%	-13.10%	-9.3%	-3.8%	0.44%	\$302,515	12.09%	6.6%	-0.72%	-\$495,911	\$302,515
SINAI	15.33%	13.55%	-11.94%	-9.3%	-2.6%	0.30%	\$1,261,452	12.09%	12.0%	-1.32%	-\$5,468,066	\$1,261,452
CALVERT	12.02%	11.26%	-11.22%	-9.3%	-1.9%	0.22%	\$137,271	12.09%	-6.9%	0.80%	\$496,475	\$496,475
HARFORD	12.86%	11.25%	-11.01%	-9.3%	-1.7%	0.20%	\$90,002	12.09%	-6.9%	0.80%	\$365,003	\$365,003

Final Recommendations for the Readmissions Reduction Incentive Program for Rate Year 2018

				Improvement Scaling (Current)				Attainment (Proposed)				
Hospital Name	CY 13 Case-Mix Adjusted Rate Adjusted for Out of State A	CY 15 Case-Mix Adjusted Rate Adjusted for Out of State B	% Change In In-state readmission Rate C	Target D	Over/Under Target E=C-D	FY 17 Scaling F	FY 17 Adjustment G	Target (Best % 25 in CY15) H	Over/Under Target I	FY 17 Scaling J	FY 17 Adjustment K	FY17 Better of Attainment/Improvement L=(G or K)
GOOD SAMARITAN	15.17%	13.61%	-10.67%	-9.3%	-1.4%	0.16%	\$253,081	12.09%	12.5%	-1.37%	-\$2,204,272	\$253,081
UM ST. JOSEPH	12.83%	11.60%	-9.85%	-9.3%	-0.6%	0.06%	\$148,146	12.09%	-4.0%	0.47%	\$1,090,176	\$1,090,176
ST. AGNES	15.03%	13.65%	-8.98%	-9.3%	0.3%	-0.04%	-\$82,444	12.09%	12.9%	-1.40%	-\$3,262,263	-\$82,444
CHARLES REGIONAL	14.19%	13.30%	-8.88%	-9.3%	0.4%	-0.05%	-\$30,756	12.09%	9.9%	-1.09%	-\$728,126	-\$30,756
BALTIMORE WASHINGTON MEDICAL CENTER	15.52%	14.12%	-8.63%	-9.3%	0.7%	-0.07%	-\$173,421	12.09%	16.8%	-1.83%	-\$4,362,101	-\$173,421
UNIVERSITY OF MARYLAND	15.99%	14.53%	-8.43%	-9.3%	0.9%	-0.09%	-\$860,116	12.09%	20.1%	-2.00%	-\$18,120,681	-\$860,116
HOPKINS BAYVIEW MED CTR	16.65%	15.30%	-8.26%	-9.3%	1.0%	-0.11%	-\$391,289	12.09%	26.5%	-2.00%	-\$6,864,594	-\$391,289
UMMC MIDTOWN	17.86%	16.60%	-7.84%	-9.3%	1.5%	-0.16%	-\$202,322	12.09%	37.2%	-2.00%	-\$2,527,986	-\$202,322
MONTGOMERY GENERAL	14.15%	12.82%	-7.80%	-9.3%	1.5%	-0.16%	-\$124,483	12.09%	6.0%	-0.66%	-\$496,524	-\$124,483
UPPER CHESAPEAKE HEALTH	12.87%	11.94%	-7.32%	-9.3%	2.0%	-0.22%	-\$294,598	12.09%	-1.3%	0.15%	\$205,126	\$205,126
FRANKLIN SQUARE	14.12%	13.22%	-7.05%	-9.3%	2.3%	-0.25%	-\$675,389	12.09%	9.3%	-1.01%	-\$2,780,816	-\$675,389
ANNE ARUNDEL	13.37%	12.64%	-6.62%	-9.3%	2.7%	-0.29%	-\$856,386	12.09%	4.5%	-0.49%	-\$1,427,315	-\$856,386
DOCTORS COMMUNITY	14.70%	14.20%	-6.47%	-9.3%	2.8%	-0.31%	-\$410,140	12.09%	17.4%	-1.90%	-\$2,523,233	-\$410,140
DORCHESTER	12.91%	12.06%	-6.28%	-9.3%	3.0%	-0.33%	-\$89,117	12.09%	-0.2%	0.03%	\$7,682	\$7,682

Final Recommendations for the Readmissions Reduction Incentive Program for Rate Year 2018

				Improvement Scaling (Current)				Attainment (Proposed)				
Hospital Name	CY 13 Case-Mix Adjusted Rate Adjusted for Out of State A	CY 15 Case-Mix Adjusted Rate Adjusted for Out of State B	% Change In In-state readmission Rate C	Target D	Over/Under Target E=C-D	FY 17 Scaling F	FY 17 Adjustment G	Target (Best % 25 in CY15) H	Over/Under Target I	FY 17 Scaling J	FY 17 Adjustment K	FY17 Better of Attainment/Improvement L=(G or K)
JOHNS HOPKINS	16.60%	15.45%	-6.02%	-9.3%	3.3%	-0.36%	-\$4,455,925	12.09%	27.8%	-2.00%	-\$24,885,958	-\$4,455,925
SUBURBAN	13.06%	12.83%	-5.02%	-9.3%	4.3%	-0.47%	-\$903,478	12.09%	6.0%	-0.66%	-\$1,275,325	-\$903,478
G.B.M.C.	12.09%	11.68%	-4.61%	-9.3%	4.7%	-0.51%	-\$1,064,485	12.09%	-3.4%	0.39%	\$812,483	\$812,483
FREDERICK MEMORIAL	11.97%	11.43%	-4.60%	-9.3%	4.7%	-0.51%	-\$977,105	12.09%	-5.5%	0.63%	\$1,195,780	\$1,195,780
SHADY GROVE	12.63%	12.10%	-4.12%	-9.3%	5.2%	-0.57%	-\$1,248,641	12.09%	0.1%	-0.01%	-\$19,893	-\$19,893
SOUTHERN MARYLAND	15.42%	15.35%	-3.60%	-9.3%	5.7%	-0.62%	-\$974,946	12.09%	26.9%	-2.00%	-\$3,131,295	-\$974,946
PENINSULA REGIONAL	12.73%	12.13%	-3.19%	-9.3%	6.1%	-0.67%	-\$1,619,362	12.09%	0.3%	-0.03%	-\$70,296	-\$70,296
CARROLL COUNTY	13.20%	12.81%	-3.01%	-9.3%	6.3%	-0.69%	-\$937,201	12.09%	5.9%	-0.65%	-\$883,889	-\$883,889
WESTERN MARYLAND HEALTH SYSTEM	14.14%	13.84%	-2.51%	-9.3%	6.8%	-0.74%	-\$1,244,301	12.09%	14.4%	-1.57%	-\$2,639,220	-\$1,244,301
REHAB & ORTHO	9.70%	9.49%	-2.16%	-9.3%	7.1%	-0.78%	-\$500,112	12.09%	-21.5%	1.00%	\$641,344	\$641,344
LAUREL REGIONAL	15.71%	14.98%	-2.16%	-9.3%	7.1%	-0.78%	-\$471,514	12.09%	23.9%	-2.00%	-\$1,208,622	-\$471,514
GARRETT COUNTY	10.65%	9.73%	-1.29%	-9.3%	8.0%	-0.88%	-\$167,557	12.09%	-19.6%	1.00%	\$191,491	\$191,491
HOWARD COUNTY	13.12%	13.00%	-1.01%	-9.3%	8.3%	-0.91%	-\$1,501,802	12.09%	7.4%	-0.81%	-\$1,348,528	-\$1,348,528
HARBOR	14.10%	14.18%	0.36%	-9.3%	9.7%	-1.06%	-\$1,195,307	12.09%	17.2%	-1.88%	-\$2,132,008	-\$1,195,307
HOLY CROSS	13.49%	13.61%	1.05%	-9.3%	10.4%	-1.13%	-\$3,585,730	12.09%	12.5%	-1.37%	-\$4,340,616	-\$3,585,730
WASHINGTON ADVENTIST	13.86%	14.04%	1.65%	-9.3%	10.9%	-1.20%	-\$1,857,099	12.09%	16.1%	-1.76%	-\$2,733,125	-\$1,857,099

Final Recommendations for the Readmissions Reduction Incentive Program for Rate Year 2018

				Improvement Scaling (Current)				Attainment (Proposed)				
Hospital Name	CY 13 Case-Mix Adjusted Rate Adjusted for Out of State A	CY 15 Case-Mix Adjusted Rate Adjusted for Out of State B	% Change In In-state readmission Rate C	Target D	Over/Under Target E=C-D	FY 17 Scaling F	FY 17 Adjustment G	Target (Best % 25 in CY15) H	Over/Under Target I	FY 17 Scaling J	FY 17 Adjustment K	FY17 Better of Attainment/Improvement L=(G or K)
MERITUS	13.27%	13.50%	2.70%	-9.3%	12.0%	-1.31%	-\$2,499,678	12.09%	11.6%	-1.27%	-\$2,424,359	-\$2,424,359
PRINCE GEORGE	14.56%	15.02%	6.23%	-9.3%	15.5%	-1.70%	-\$3,738,798	12.09%	24.2%	-2.00%	-\$4,406,129	-\$3,738,798
EASTON	11.96%	12.73%	6.69%	-9.3%	16.0%	-1.75%	-\$1,782,013	12.09%	5.3%	-0.57%	-\$585,325	-\$585,325
UNION HOSPITAL OF CECIL COUNT	12.61%	15.35%	17.34%	-9.3%	26.6%	-2.00%	-\$1,387,798	12.09%	26.9%	-2.00%	-\$1,387,798	-\$1,387,798
<b>State</b>	<b>14.26%</b>	<b>12.84%</b>	<b>-7.13%</b>	<b>-9.3%</b>			<b>\$(27,986,857)</b>				<b>\$(107,337,130)</b>	<b>\$(16,007,336)</b>

**APPENDIX VIII. OUT-OF-STATE MEDICARE READMISSION RATIOS**

The following figure presents calculation of Out-of-state adjustments using the Medicare readmission information from CMMI. The table is sorted by column C. Garrett County Hospital has the largest proportion of their readmissions occurring at hospitals outside of Maryland, which is equal to 38 percent of their in-state readmissions.

HOSPITAL NAME	CY 13 Casemix Adjusted All Payer Readmission Rate (In-State Readmissions)	CY13 Total Medicare Readmission Rate/In-state Readmission Rate	CY 13 Casemix Adjusted Rate with Out-of-State	CY 15 Casemix Adjusted All Payer Readmission Rate (In-State Readmissions)	CY15 Total Medicare Readmission Rate/In-state Readmission Rate	CY 15 Casemix Adjusted Rate with Out-of-State	PERCENT CHANGE Case-mix Adjusted	PERCENT CHANGE WITH OUT-OF STATE Adjustment
A	B	C	D=B*C	E	F	G=E*F	H=E/B-1	I=G/D-1
GARRETT COUNTY	7.73%	1.38	10.65%	7.63%	1.28	9.73%	-1.29%	-8.66%
FT. WASHINGTON	13.95%	1.28	17.84%	11.61%	1.30	15.09%	-16.77%	-15.40%
PRINCE GEORGE	11.56%	1.26	14.56%	12.28%	1.22	15.02%	6.23%	3.17%
SOUTHERN MARYLAND	12.77%	1.21	15.42%	12.31%	1.25	15.35%	-3.60%	-0.43%
UNION HOSPITAL OF CECIL COUNT	10.90%	1.16	12.61%	12.79%	1.20	15.35%	17.34%	21.75%
WASHINGTON ADVENTIST	12.13%	1.14	13.86%	12.33%	1.14	14.04%	1.65%	1.30%
CALVERT	10.61%	1.13	12.02%	9.42%	1.19	11.26%	-11.22%	-6.36%
ST. MARY	13.43%	1.11	14.96%	11.67%	1.10	12.89%	-13.10%	-13.87%
CHARLES REGIONAL	12.95%	1.10	14.19%	11.80%	1.13	13.30%	-8.88%	-6.30%
HOLY CROSS	12.37%	1.09	13.49%	12.50%	1.09	13.61%	1.05%	0.86%
ATLANTIC GENERAL	13.02%	1.09	14.15%	9.86%	1.11	10.91%	-24.27%	-22.88%
JOHNS HOPKINS	15.44%	1.08	16.60%	14.51%	1.07	15.45%	-6.02%	-6.93%
SUBURBAN	12.15%	1.07	13.06%	11.54%	1.11	12.83%	-5.02%	-1.80%

Final Recommendations for the Readmissions Reduction Incentive Program for Rate Year 2018

HOSPITAL NAME	CY 13 Casemix Adjusted All Payer Readmission Rate (In-State Readmissions)	CY13 Total Medicare Readmission Rate/In-state Readmission Rate	CY 13 Casemix Adjusted Rate with Out-of-State	CY 15 Casemix Adjusted All Payer Readmission Rate (In-State Readmissions)	CY15 Total Medicare Readmission Rate/In-state Readmission Rate	CY 15 Casemix Adjusted Rate with Out-of-State	PERCENT CHANGE Case-mix Adjusted	PERCENT CHANGE WITH OUT-OF STATE Adjustment
A	B	C	D=B*C	E	F	G=E*F	H=E/B-1	I=G/D-1
WESTERN MARYLAND HEALTH SYSTEM	13.16%	1.07	14.14%	12.83%	1.08	13.84%	-2.51%	-2.15%
PENINSULA REGIONAL	11.93%	1.07	12.73%	11.55%	1.05	12.13%	-3.19%	-4.70%
SHADY GROVE	11.89%	1.06	12.63%	11.40%	1.06	12.10%	-4.12%	-4.19%
LAUREL REGIONAL	14.81%	1.06	15.71%	14.49%	1.03	14.98%	-2.16%	-4.65%
DOCTORS COMMUNITY	13.91%	1.06	14.70%	13.01%	1.09	14.20%	-6.47%	-3.37%
MERITUS	12.61%	1.05	13.27%	12.95%	1.04	13.50%	2.70%	1.74%
MONTGOMERY GENERAL	13.47%	1.05	14.15%	12.42%	1.03	12.82%	-7.80%	-9.41%
CHESTERTOWN	14.78%	1.05	15.51%	12.70%	1.07	13.65%	-14.07%	-11.98%
UNIVERSITY OF MARYLAND	15.30%	1.05	15.99%	14.01%	1.04	14.53%	-8.43%	-9.14%
FREDERICK MEMORIAL	11.51%	1.04	11.97%	10.98%	1.04	11.43%	-4.60%	-4.51%
HARFORD	12.44%	1.03	12.86%	11.07%	1.02	11.25%	-11.01%	-12.49%
MERCY	15.60%	1.03	16.09%	12.99%	1.03	13.37%	-16.73%	-16.92%
ANNE ARUNDEL	13.00%	1.03	13.37%	12.14%	1.04	12.64%	-6.62%	-5.49%
DORCHESTER	12.58%	1.03	12.91%	11.79%	1.02	12.06%	-6.28%	-6.53%
EASTON	11.66%	1.03	11.96%	12.44%	1.02	12.73%	6.69%	6.40%
HOPKINS BAYVIEW MED CTR	16.35%	1.02	16.65%	15.00%	1.02	15.30%	-8.26%	-8.12%

Final Recommendations for the Readmissions Reduction Incentive Program for Rate Year 2018

HOSPITAL NAME	CY 13 Casemix Adjusted All Payer Readmission Rate (In-State Readmissions)	CY13 Total Medicare Readmission Rate/In-state Readmission Rate	CY 13 Casemix Adjusted Rate with Out-of-State	CY 15 Casemix Adjusted All Payer Readmission Rate (In-State Readmissions)	CY15 Total Medicare Readmission Rate/In-state Readmission Rate	CY 15 Casemix Adjusted Rate with Out-of-State	PERCENT CHANGE Case-mix Adjusted	PERCENT CHANGE WITH OUT-OF STATE Adjustment
A	B	C	D=B*C	E	F	G=E*F	H=E/B-1	I=G/D-1
CARROLL COUNTY	12.97%	1.02	13.20%	12.58%	1.02	12.81%	-3.01%	-2.94%
HOWARD COUNTY	12.92%	1.02	13.12%	12.79%	1.02	13.00%	-1.01%	-0.97%
BALTIMORE WASHINGTON MEDICAL CENTER	15.29%	1.01	15.52%	13.97%	1.01	14.12%	-8.63%	-8.99%
UPPER CHESAPEAKE HEALTH	12.71%	1.01	12.87%	11.78%	1.01	11.94%	-7.32%	-7.25%
G.B.M.C.	11.94%	1.01	12.09%	11.39%	1.03	11.68%	-4.61%	-3.35%
UM ST. JOSEPH	12.69%	1.01	12.83%	11.44%	1.01	11.60%	-9.85%	-9.57%
BON SECOURS	20.47%	1.01	20.69%	15.93%	1.02	16.29%	-22.18%	-21.25%
HARBOR	13.97%	1.01	14.10%	14.02%	1.01	14.18%	0.36%	0.56%
UNION MEMORIAL	15.31%	1.01	15.43%	12.81%	1.01	12.92%	-16.33%	-16.26%
ST. AGNES	14.93%	1.01	15.03%	13.59%	1.00	13.65%	-8.98%	-9.20%
UMMC MIDTOWN	17.74%	1.01	17.86%	16.35%	1.02	16.60%	-7.84%	-7.05%
SINAI	15.24%	1.01	15.33%	13.42%	1.01	13.55%	-11.94%	-11.61%
GOOD SAMARITAN	15.09%	1.01	15.17%	13.48%	1.01	13.61%	-10.67%	-10.26%
FRANKLIN SQUARE	14.05%	1.00	14.12%	13.06%	1.01	13.22%	-7.05%	-6.38%
NORTHWEST	16.06%	1.00	16.13%	13.43%	1.02	13.63%	-16.38%	-15.50%
MCCREADY	13.05%	1.00	13.05%	10.66%	1.00	10.66%	-18.31%	-18.31%
REHAB & ORTHO	9.70%	1.00	9.70%	9.49%	1.00	9.49%	-2.16%	-2.16%
<b>Hospital Average</b>	<b>13.44%</b>		<b>14.22%</b>	<b>13.22%</b>		<b>13.22%</b>	<b>-6.80%</b>	<b>-6.59%</b>







Maryland  
Hospital Association

May 25, 2016

Nelson J. Sabatini  
Chairman, Health Services Cost Review Commission  
4160 Patterson Avenue  
Baltimore, MD 21215

Dear Chairman Sabatini:

On behalf of the 64 hospital and health system members of the Maryland Hospital Association (MHA), we appreciate the opportunity to comment on the *Draft Recommendations for the Readmissions Reduction Incentive Program for Rate Year 2018*, the *Draft Recommendations for the Aggregate Revenue Amount At-Risk under Maryland Hospital Quality Programs for Rate Year 2018*, and the *Draft Recommendations for the Potentially Avoidable Utilization Savings Policy for Rate Year 2017*. On the whole, we support the HSCRC staff recommendations related to readmissions and the amounts of revenue at risk for specific quality programs; however, we disagree with the staff recommendation on Potentially Avoidable Utilization (PAU) savings and the resulting quality-based payment program adjustment to the update.

**MHA's position: the net quality-based payment program adjustment should be reduced from -0.61 percent to -0.16 percent by lowering the expected shared savings offset for Potentially Avoidable Utilization. This would reduce to 0.80 percent HSCRC staff's recommendation of a 1.25 percent reduction in hospital revenues.**

- The recommendation to reduce hospital revenue by 1.25 percent according to hospitals' individual percentages of readmissions and admissions for certain chronic conditions, or Prevention Quality Indicators (PQIs), uses an Agency for Healthcare Research and Quality (AHRQ) metric in a way it was not intended. The metric was created not for hospitalized patients, but to measure prevention opportunities in the broader population. It has not been applied as a payment incentive anywhere else in the nation. In fact, a report of an AHRQ Clinical Expert Review Board on expanding the use of PQIs for pay for performance notes that "(p)anelists showed comparatively less support for using these indicators in pay for performance applications." They noted the need for careful risk adjustment and that "higher stakes use" may encourage adverse effects of implementation.
- In our April 4 comment letter (attached), we expressed concerns about, among other things, using the AHRQ measure to require an 11.4 percent reduction in readmissions and PQIs combined in one year. That steep of a reduction is, simply, unattainable, and if an incentive is unattainable it no longer acts as an incentive. It is instead just an arbitrary cut.

- The attempt to justify setting a goal of an 11.4 percent reduction in readmissions and PQIs using a 2012 Institute of Medicine report that suggests 27 percent of health care spending was for unnecessary services, compares apples to oranges. Unnecessary care can occur for many reasons: unnecessary screening exams, duplicative tests, invasive procedures near the end of life, lack of patient understanding of treatment options, defensive medicine and more. The opportunity to reduce this care and the interventions, if available, are varied and require patient and provider behavior change over the long term. Those efforts do not necessarily directly help a Maryland hospital meet a specific PQI reduction of more than 11 percent in one year.
- HSCRC staff's recommendation to reduce hospital revenue by 1.25 percent comes against a backdrop of a proposed global budget increase of just 1.1 percent for all hospitals, already far below inflation. Our recommendation of removing the PQI component and lowering that reduction to 0.80 percent to adjust only for readmissions – an adjustment we agree with – is still an increase over last year's reduction of 0.60 percent.

### **Aggregate Revenue at Risk**

We support the staff recommendations on the remaining amounts at risk for the individual quality programs: Quality Based Reimbursement, Maryland Hospital Acquired Conditions, Readmissions, and the Maximum Penalty Guardrail of 3.5 percent of total revenue.

It is critical to note that, for fiscal year 2017, Maryland's potential all-payer revenue at risk is more than 11 percent – far higher than the nation's Medicare revenue at risk of 6 percent. The amount of actual adjustments or “realized risk” by Maryland's hospitals is also significant – projected at more than 4 percent of all-payer revenue. Therefore, there is plenty of room for HSCRC to make the minor adjustment for potentially avoidable utilization that we are recommending.

### **Readmissions**

We support HSCRC staff's recommendations on fiscal year 2017 and 2018 readmissions results. We appreciate and commend HSCRC staff's diligence in developing a well-balanced readmissions policy that includes the concept of attainment – something that has not been achieved elsewhere. The policy does have opportunities for future refinement, in particular regarding the risk model that would recognize characteristics such as social and demographic predictors of readmission, as well as refinements to the out-of-state adjustment. The policy currently adjusts in-state risk-adjusted all-payer readmissions by the percentage of unadjusted Medicare readmissions that occur out of state. We are still working to understand the Medicare data, and may find that there is a better way to account for the all-payer readmissions that occur out of state.

Nelson J. Sabatini

May 25, 2016

Page 3

The hospital field's strong performance on all of the Medicare demonstration metrics indicates that the current performance incentives are working. There are already incentives to reduce PQIs inherent in the global budget, and the Maryland amount of revenue at risk is greater than the nation, no matter which way it is measured. Experimenting with new, untried pay for performance metrics now would shift important focus away from the metrics that are actually generating valuable results for our state, its hospitals, and the communities and people we all serve.

We appreciate the commission's consideration of our comments.

Sincerely,



Traci La Valle  
Vice President

cc: Herbert S. Wong, Ph.D., Vice Chairman  
Victoria W. Bayless  
George H. Bone, M.D.  
John M. Colmers  
Stephen F. Jencks, M.D., M.P.H.  
Jack C. Keane  
Donna Kinzer, Executive Director  
Dianne Feeney, Associate Director, Quality Initiatives

Enclosures



Maryland  
Hospital Association

April 4, 2016

Dianne Feeney  
Associate Director, Quality Initiatives  
Health Services Cost Review Commission  
4160 Patterson Avenue  
Baltimore, Maryland

Dear Ms. Feeney:

On behalf of the 64 hospital and health system members of the Maryland Hospital Association (MHA), we appreciate the opportunity to comment on the proposed changes to the *Draft Recommendation for Updating the Readmissions Reduction Incentive Program for Rate Year 2018* and the *Draft Recommendation for the Aggregate Revenue Amount At-Risk under Maryland Hospital Quality Programs for Rate Year 2018*. The draft recommendations raise three important policy concerns: the need for individual hospital consideration when there is no performance standard for readmissions; the lack of justification for expanding a penalty-only performance metric (shared savings) and to include an ill-conceived idea of measuring Prevention Quality Indicators and sepsis cases at the hospital level; and the amount of revenue at risk under quality-related programs. It is important that these policies be considered in the context of a second year of very favorable performance on the financial and quality metrics specified in the all-payer demonstration agreement. The hospital field has demonstrated that it can deliver on the demonstration targets ahead of the pace outlined in the agreement. In submitting our comments, we urge you to keep in mind the Health Services Cost Review Commission (HSCRC) Advisory Council's early advice to implement the agreement using broad targets and incentives and to avoid excessive regulation, thus allowing hospitals the flexibility to meet those targets.

#### **Fiscal Year 2018 Policy (Calendar 2016 Performance)**

HSCRC staff and the hospital field have made considerable progress in understanding readmissions rates over the last year. Most notably, we finally have a method to calculate Medicare readmissions that we believe fairly compares Maryland's unadjusted readmissions rates to the nation. We have also made progress on measuring social and demographic factors that affect readmissions rates and in quantifying the impact of other factors in a risk-adjusted model. However, we do not yet have a model that everyone agrees should be used to set a target readmissions rate for each hospital.

In calendar year 2015, it became clear that hospitals with lower starting readmissions rates were less likely to reduce readmissions and may even experience increases. We also saw a pattern that readmissions rates move up or down in tandem with admissions. Just as we do not fully understand the complex interplay of factors driving hospital readmissions rates, we are not yet

able to fully account for the factors driving overall utilization in each market, such as changes in physician and payer referral patterns.

Last year, HSCRC's readmissions policy included a provision that any hospital that believed the readmissions reduction policy was penalizing them inappropriately could bring additional information to HSCRC to more fully explain their individual circumstances. To date, a number of hospitals have met with HSCRC, but none has received penalty relief. HSCRC staff does not yet appear to have a mechanism to determine when a hospital is a good performer, even on an individual basis.

We recommend that HSCRC continue to work with the hospital field to come to agreement on a mechanism to determine a hospital-specific readmissions target so that the readmissions policy can recognize both attainment and improvement. Hospitals that have attained lower readmissions rates should not be penalized, particularly when those rates are well below state and national averages.

#### **Penalty Relief Fiscal Year 2017 (Calendar 2015 Performance)**

MHA has been advocating for a mechanism to recognize hospitals that have low readmissions rates and those that have significantly improved. Our recommended modification to fiscal 2017 policy accomplishes that by lowering the statewide target and mitigating penalties for hospitals whose rates are among the lowest third of the state in both the base year and the performance year. The options proposed by HSCRC do one or the other, but not both. The options to recognize Medicare improvement or all-payer improvement tend to help hospitals that have experienced larger reductions in readmissions generally. The option to lower the improvement target for hospitals with base rates below statewide average is a step in the right direction, but still leaves subject to penalties too many hospitals with low readmissions rates. Appendix 1 shows the MHA proposal, and our projection of the hospital-specific and statewide impact of all three proposals.

HSCRC staff stated in their recommendation that they disagree with lowering the statewide reduction target. However, at the time the 9.3 percent target was set, there was significant uncertainty around what an appropriate target would be. Maryland did not yet have the base year readmissions rates for the state and the nation, so we did not know how much difference Maryland's hospitals needed to make up, nor whether our year one performance was on track to meet the Medicare demonstration target. Now, with better data, we know that the 7.1 percent all-payer reduction through November 2015 has Maryland comfortably meeting the statewide Medicare readmissions target as specified in the demonstration agreement. Clearly, the 9.3 percent target was too aggressive.

#### **Expanding "Shared Savings"**

The staff recommendation links fiscal year 2017 penalty relief to a proposed larger "shared savings" reduction, to generate additional savings for Medicare and all other payers. This is completely unnecessary from a financial incentive standpoint, and poorly conceived from a

performance measurement standpoint. The financial targets of the all-payer model would allow the commission to mitigate fiscal 2017 penalties without additional offsets. Maryland is already far ahead of the Medicare savings targets. The cumulative year two savings target is \$49 million, but in year one alone more than \$100 million in savings was generated. Likewise, there is plenty of cushion under the all-payer cap. In fiscal year 2015, commissioners approved a 2.35 percent per capita increase to global budgets. The per capita increase actually provided in global budgets was 1.85 percent, according to commission data. Likewise, in fiscal 2016, commissioners approved an increase of 2.61 percent per capita, and through January, hospital per capita revenue has increased only 1.52 percent. Across the two years combined, 5.02 percent per capita growth was approved, but only 3.47 percent per capita has been reflected in hospital rates.

From a performance measurement standpoint, adjusting hospital revenues by a modified version of the Agency for Healthcare Research and Quality Prevention Quality Indicator (PQI) admissions disregards the important fact that the measure is intended to evaluate the rate of preventable admissions in a *population*. The agency never intended for the admissions to be counted at the provider level without knowing the population at risk for a PQI admission. Without understanding the denominator, or the ability to quantify the number of people who were at risk for admission to a hospital, PQI performance cannot be compared across hospitals. Hospitals with a more surgical focus will have lower PQI rates, hospitals in areas where there is low population density and fewer physicians will have higher rates. The enclosed chart shows that PQI admissions per 1,000 population vary significantly by county. The concept, perhaps well intentioned, is that the hospital is responsible for the health of its community, so if fewer people are admitted for chronic conditions, it must mean that the community is healthier. It could also mean that primary care services are more available, or that patients went to another hospital.

The measurement issues related to sepsis are also significant, and should cause concern when being considered for inclusion in the proposed readmissions shared savings policy. There is national debate among physicians and infection preventionists about when a patient's clinical conditions should be labeled as sepsis. Over-identification can lead to overuse of antibiotics and proliferation of other complications, such as *Clostridium Difficile*. Patient Safety Organizations and the Centers for Medicare & Medicaid Services are focused on reducing sepsis mortality by identifying people who are in the early stage of sepsis and need antibiotics and hydration within three hours to reduce the risk of dying. Patient safety interventions such as these that rely on early detection may cause an initial increase in the number of sepsis cases, but should also be accompanied by reductions in sepsis mortality. Adding an incentive to reduce sepsis cases could be at odds with efforts to identify and reduce sepsis mortality. Septicemia and shock, which may be the result of the body's reaction to sepsis, are included in the Maryland Hospital-Acquired Conditions program, and sepsis mortality is included in HSCRC's Quality Based Reimbursement program.

The HSCRC staff recommendations on a fiscal year 2018 readmissions policy, fiscal year 2017 readmissions penalty mitigation, and in particular, the recommendation to tie penalty relief to an expansion of a penalty-only policy based on performance metrics that are not suited to hospital

Dianne Feeney  
April 4, 2016  
Page 4

level measurement and which seem to be hastily constructed, are overly punitive. The hospital field's strong performance on all of the Medicare demonstration metrics indicate that the current performance incentives are working well. There are already incentives to reduce PQIs inherent in the global budget, and the Maryland amount of revenue at risk is greater than the nation, no matter which way it is measured. Piling on additional metrics, additional penalties and additional risk would jeopardize and remove focus from the good work and good results hospitals are already delivering.

We appreciate the commission's consideration of our comments.

Sincerely,



Traci La Valle  
Vice President

Enclosure



# “Shared Savings” Reductions are Simply Revenue Reductions

- The net proposed shared savings adjustment of 0.65 percent would remove \$98.4 million from hospital budgets
- It’s been characterized as a savings mechanism that allows hospitals to retain 100 percent of the reduction beyond the savings benchmark. However, since costs are both fixed and variable, savings are generated and accrued at less than 100 percent.
- Assuming hospital costs are 50% variable, for the hospital field to break even on a \$98.4 million reduction, the field must reduce volume equivalent to \$198.6 million (\$98.4 x 2)
- A hospital would not begin to keep any cost savings until PQIs and readmissions were reduced by over 11 percent

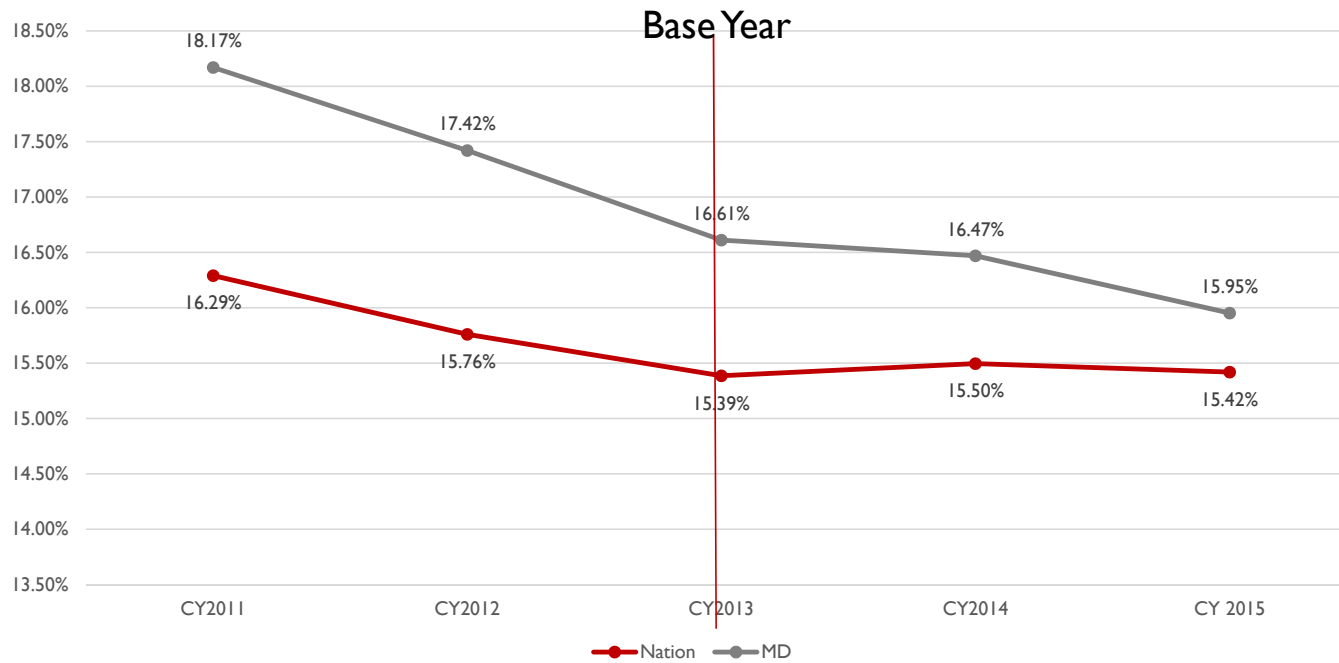
	CY 2015 Average Charge	Number cases to reduce to achieve \$198.6 million savings	CY 2015 number of cases (including Observation)	Percent reduction required for hospital to break even
		(Savings target of \$198.6 M / PQI avg chg \$10,651)		(Cases to reduce / CY 15 number of cases)
<b>PQI</b>	\$10,651	18,646	77,654	<b>-24.0%</b>
<b>Readmissions</b>	\$15,277	13,001	83,412	<b>-15.6%</b>
<b>Combined</b>	\$13,961	14,226	124,499	<b>-11.4%</b>

---

Readmission Reduction Incentive Program Draft  
FY 2018 Policy

# Medicare Benchmark: At or below National Medicare Readmission Rate by CY 2018

Maryland is reducing readmission rate faster than the nation. Maryland reduced reduce the gap from 7.93% in the base year to 3.46 % in CY 2015. Our target for the gap is 4.77% difference.\*



\*In percentage point terms, the base year gap of 1.23 percentage points is reduced to 0.53 percentage points. The target was 0.74 percentage points.

## RRIP proposal for FY 2018

---

- ▶ Updating the policy to include an “attainment” as well as an improvement evaluation
  - ▶ Readmissions at out-of-state hospitals- use Medicare ratios
  - ▶ Impact of patient’s socio-economic factors –no adjustment is necessary as long as improvement rates are recognized
  - ▶ Benchmarks: Staff recommends the highest benchmark rather than the state average readmission rate

# Final Recommendations for the RRIP Policy

---

## ▶ For RY 2018

- ▶ The RRIP policy should continue to be set for all-payers
- ▶ Hospital performance should be measured better of attainment of improvement
- ▶ Set attainment benchmark at 11.85 percent, which is 2 percent lower than the state top-quartile readmission rate in CY 2015
- ▶ Set the reduction target at 9.50 percent from CY 2013 readmission rates

## ▶ For RY 2017

- ▶ Apply the same methodology outlined above based on 9.30 reduction target as approved by the Commission last year and the state top-quartile readmission rate in CY 2015, which is 12.09 percent