

**Final Recommendation for Updating the Hospital  
Readmission Reduction Incentive Program  
for Rate Year (RY) 2017**

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This document contains the final Staff recommendations for updating the Maryland Hospital Readmission Reduction Incentive Program for RY 2017.

## **A. Introduction**

The United States healthcare system currently experiences an unacceptably high rate of preventable hospital readmissions. These excessive readmissions are a symptom of our fragmented care system and they generate considerable unnecessary cost and substandard care quality for patients. Maryland's readmission rates are high compared to the national levels for Medicare. The Center for Medicare and Medicaid Innovation (CMMI) All-Payer Model Agreement (or "waiver"), which began on January 1, 2014, has established readmission reduction targets that require Maryland hospitals to be equal to or below the rates of Medicare readmissions by CY 2018 and to make scheduled annual progress toward this goal.

In order to incentivize hospital care improvements, encourage hospitals to meet the Medicare readmissions target and motivate hospitals to also reduce readmissions for other payers, the Commission approved a hospital Readmission Reduction Incentive Program (RRIP) in April of 2014. The RRIP established a uniform target reduction of 6.76% in all payer readmissions in CY 2014, relative to CY 2013, across all hospitals. The 6.76% target reduction for CY 2014 was based on the excess level of Medicare readmissions in Maryland (i.e., 8.78%) in FY 2013, divided by five, plus an estimate of the reduction (5.0%) in Medicare readmissions that would be achieved on a national basis in CY 2014.

The RRIP's incentive structure specified a maximum reward of 0.5% of permanent inpatient revenue which would be applied to the RY 2016 rates of hospitals that achieved or exceeded the target reduction. The RRIP for RY 2016 did not include any penalties for hospitals that did not achieve the targeted reduction in all payer readmissions and there was no separate adjustment tied to performance on Medicare readmissions.

The purpose of this recommendation is: to provide the latest available information regarding the results of the RRIP in CY 2014; to discuss the range of issues raised by Commissioners, stakeholders and Staff concerning the RRIP, including the pros and cons of various options for modifying the RRIP for RY2017; and to propose the Staff's final recommendations for changes in the RRIP for CY 2015 performance year. The draft recommendations were presented at the December 2014 Commission meeting.

## **B. Background**

The fragmented US health services delivery and payment system has generally provided large disincentives for hospitals and other providers to construct efficient and effective coordinated care models. The fee-for-service system that has been prevalent has rewarded additional care while penalizing efforts to improve efficiency and health status by tying payments to the number of services rather than to outcomes.

Since the inception of hospital rate regulation in Maryland, the HSCRC has experimented with innovative methods of hospital reimbursement. Pursuant to the provisions of Health-General Article, Section 19-219 and COMAR 10.37.10.06, the Commission may approve experimental payment methodologies that are consistent with the HSCRC's legislative mandate to promote effective and efficient health service delivery and its primary policy objectives of cost containment, expanded access to care, equity in payment, financial stability, improved quality and public accountability.

The Commission made an initial attempt to encourage reductions in unnecessary readmissions when it created the Admission-Readmission Revenue (ARR) program in CY 2011. The ARR, which was adopted by most Maryland hospitals, established “charge per episode” (CPE) constraints on hospital revenue, providing strong financial incentives to reduce hospital readmissions. The Global Budget Revenue (GBR) and Total Patient Revenue (TPR) rate arrangements now in effect for all hospitals supply even stronger incentives for reductions in unnecessary readmissions by affording each hospital a specified, fixed revenue budget it is allowed to generate during a particular rate year, providing strong financial incentives for the hospital to construct efficient and effective coordinated care models designed to promote the delivery of timely, necessary care to their populations in the most appropriate settings.

Thus far, the GBR and TPR rate arrangements appear to be functioning well, as evidenced by a drop in the rate of increase in Maryland hospital expenditures that appears to be at or below the limits set in the Model Agreement with CMMI, improved hospital profitability, and multiple hospitals’ investments in infrastructure capabilities designed to help them meet the challenges of population health management.

In Federal Fiscal Year (FFY) 2012, pursuant to the requirements of the Affordable Care Act (ACA), CMS adopted regulations that initiated the Medicare Hospital Readmissions Reduction Program (MHRRP). The national program was designed to drive reductions in Medicare readmissions by reducing Medicare’s inpatient payment rates by a maximum of 1.0% in FFY 2013, 2.0% in FFY 2014 and 3.0% in FFY 2015 for hospitals that showed excess levels of Medicare readmissions for a prescribed set of inpatient conditions.

Section 3025 of the Affordable Care Act (“ACA”) for FY 2014 as permitted by Section 3025(q)(2)(B)(ii) of the ACA required Maryland to have a similar program and achieve same or better results in cost and outcomes to receive an exemption from the MHRRP program. In May 2013, the Commission approved a Shared Savings Policy (SSP) for FY 2014, which reduced hospital inpatient revenues by 0.3% of inpatient revenue to achieve savings that would be approximately equal to those that were expected to arise out of the MHRRP. The SSP approved by the Commission for RY 2015 increased the rate reduction to 0.4% of total revenue. The SSP reductions were based on each hospital’s actual/expected readmission rates, and thereby reflected the “attainment” levels of the hospitals with regard to readmissions, adjusting for the case-mix differences. The reductions were highest for the hospitals with the largest proportion of excess readmissions.

The new All-Payer contract established specific targets for reductions in Maryland’s Medicare readmission rates by CY 2018. In April 2014, the Commission approved a second readmissions program—the Hospital Readmission Reduction Incentive Program (RRIP)—to bolster the incentives to reduce unnecessary readmissions that were created by the SSP and global budgets. The RRIP provided a positive rate adjustment of 0.5% of inpatient revenues for hospitals that were able to achieve or exceed pre-determined reduction target for readmissions in CY 2014 relative to CY 2013. Unlike the SSP, the RRIP focused on the improvements achieved by the hospitals in their readmission rates rather than on their readmission attainment levels.

The readmissions-related discussions that occurred during meetings of the Performance Measurement Workgroup (PMWG) in 2014 produced a set of guiding principles recommended to the Commission regarding the hospital readmission reduction program in Maryland:

- 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 equal or less than the National Medicare readmission rate by CY 2018.
- Measurement used should be consistent with the CMS Measure of Readmissions.
- The approach must include the ability to track progress.

## C. Assessment

### 1. Maryland's High Readmission Rates

HSCRC Staff recently received updated readmissions information from CMMI. This information is reflected in this discussion and considered in the formulation of the Recommendations that are presented in Section F.

Figure 1 (below) shows data comparing Maryland hospitals' readmission rates to all US hospitals using CMS MRRP data for 30-day readmission of patients with pneumonia, heart failure (CHF), heart attack (AMI), hip/knee arthroplasty and chronic obstruction pulmonary disease (COPD). This comparison reveals that the majority of Maryland hospitals have readmission rates above the national average for all conditions measured in the CMS program. Hospital specific rates were also presented to the Performance Measurement Workgroup (Appendix I).

**Figure 1: Maryland Hospitals Excess Readmission Ratios as Measured by the CMS' MRRP and Applied to FFY 2015 Medicare Rates Outside of Maryland**

	Pneumonia	Heart Failure	Acute Myocardial Infarction	Hip/Knee Arthroplasty	Chronic Obstructive Pulmonary Disease
<b>Total Number of Cases in Maryland</b>	<b>19,363</b>	<b>26,474</b>	<b>9,002</b>	<b>18,204</b>	<b>20,666</b>
Average Ratio of Readmissions in Maryland to U.S. Average	1.04	1.04	1.02	1.09	1.02
Percent of Maryland Hospitals Above the U.S. Average	61%	70%	61%	59%	59%

Source: [FY 2015 IPPS Hospital Readmissions Reduction Program Supplemental Data File \(Final Rule and Correction Notice\)](#)

Previously, in the absence of data from CMMI, HSCRC Staff relied on readmission trends provided by the state Quality Improvement Organization, the Delmarva Foundation, to compare Maryland and national readmission rates in formulation of the CY 2014 target. HSCRC Staff and CMMI worked together to revise the readmission measure so that the Maryland rates are comparable to National rates.<sup>1</sup> These revisions thus far have reduced both Maryland and national readmission rates, slightly narrowed the gap between national and Maryland rates, and changed the trends for both

<sup>1</sup>The three main revisions applied are; 1. Removal of Medicare beneficiaries who are enrolled in Medicare Advantage plans within 30 days of an inpatient stay, 2. Removal of Medicare beneficiaries who have dies within 30 days of an inpatient stay, 3. Removal of planned readmissions.

Maryland and Nation. Figure 2 provides the comparison of the two data reports. Staff will continue to work with CMMI to finalize the measurement definitions during CY 2015 while using the CMMI interim IV measure definition to monitor the progress in readmission rates. Based on these interim definitions, Maryland statewide readmission rate is 8.21% higher than the national Medicare readmission rate in CY 2013, which is the base year for the RRIP program.

**Figure 2: Maryland Readmission Rate vs National Readmission Rates: Comparison of CMMI Interim IV Measure vs Delmarva Readmission Reports**

	Nation		MD		Nation vs. MD
	% Readmissions	Percent Change in Rate of Readmits	% Readmissions	Percent Change in Rate of Readmits	% Difference in Readmits
2011	16.68%		18.60%		11.51%
2012	16.16%	-3.10%	17.82%	-4.20%	10.24%
2013	15.78%	-2.34%	17.08%	-4.14%	8.21%
2014	15.73%	-0.35%	16.94%	-0.80%	7.72%

**Delmarva Readmission Reports**

2011	18.60%	0.22%	20.92%	-1.88%	12.47%
2012	18.35%	-1.34%	20.32%	-2.87%	10.74%
2013	17.66%	-3.76%	19.21%	-5.46%	8.78%

\* Note: CY 2014 rates have been estimated by applying the October 2014/YTD October 2013 change in readmission rates to the CY 2013 readmission rates.

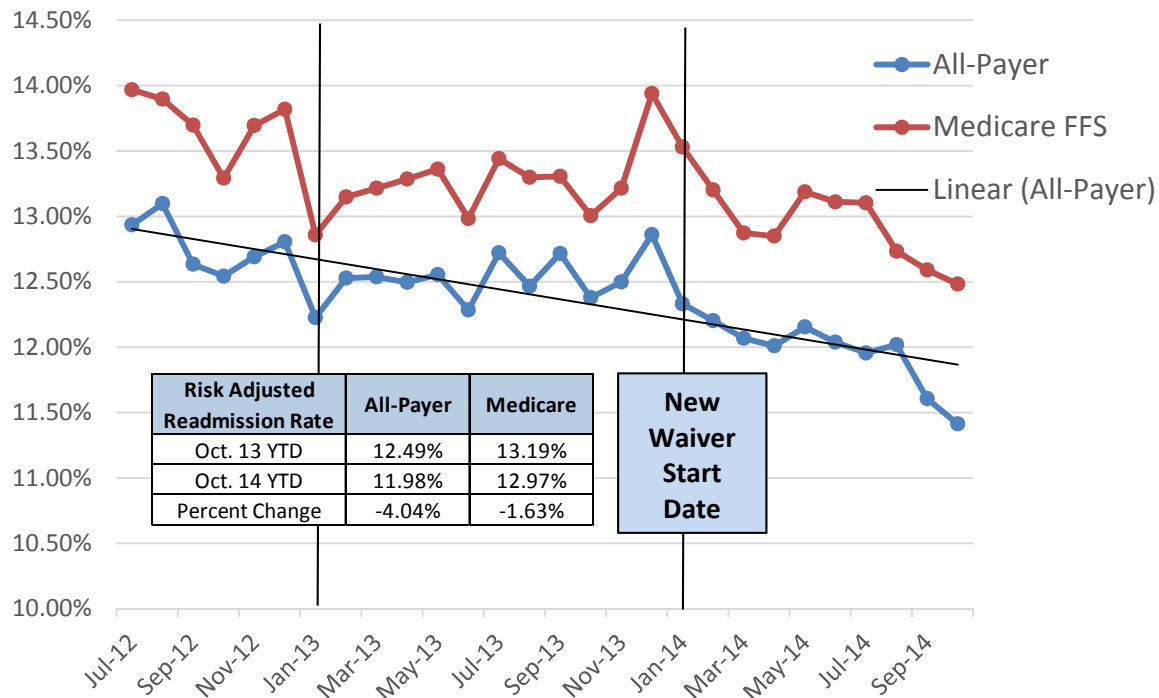
**2. Maryland’s Progress in Meeting Its Readmission Reduction Targets**

The 6.76% RRIP reduction target for CY 2014 relative to CY 2013 was developed using the data that were available to the Staff when the final recommendation was presented to the HSCRC in April 2014. Those data, as shown in Figure 2 above, indicate that Maryland’s Medicare unadjusted readmission rate in CY 2013 was 19.21%, or 8.78% higher than the national Medicare readmission rate of 17.66%. With no further reductions in the national Medicare readmissions rate from CY 2013 through CY 2018, the annual reduction in Maryland’s Medicare readmission rates needed to meet the requirements of the Model Agreement would have been 1.76% (8.78% / 5 years). However, further decreases in the national Medicare readmission rate were expected, with readmission rates declining at a faster pace each year. The RRIP reduction target was, therefore, based on projection that Medicare’s national rate of readmissions would drop by 5.0% in CY 2014. Accordingly, the target rate of readmission reductions included in the RRIP for CY 2016 was 6.76% (i.e., (1.76% + 5.0% = 6.76%)), and was applied to all payers based on stakeholder workgroup recommendations.

RRIP results for CY 2014 show that there has been a reduction in readmissions for both all-payer and Medicare FFS patients in Maryland. As shown in Figure 3, Medicare case-mix adjusted readmission rates fell by 1.63%, and all-payer readmission rates fell by 4.04%, over the YTD October 2013 through YTD October 2014 period. Neither of these reductions, if they occurred for

the full twelve months of CY 2014, would meet the 6.76% reduction in readmission rates that was targeted for CY 2014. However, as shown above the drop in the national Medicare readmission rate from CY 2013 to CY 2014 also appears to have fallen well short of the 5% estimate (-0.35% actual vs. -5.00% assumed).

**Figure 3: All-Payer and Medicare FFS Monthly YTD Readmission Trends**



Note: Based on final data for January 2013 - June 2014, and preliminary data through November 2014.

### 3. Establishing Readmission Reduction Target for RY 2017

Under the Model Agreement, Maryland is required to eliminate the excessive level of readmissions, and at least match any further declines in the national Medicare readmission rate, by CY 2018. As shown in Figure 4 below, the Medicare readmission rate is estimated to improve by 0.35% in CY 2014, while Maryland is estimated to improve by 0.80%. However, the required reduction for Maryland in year 1 would need to have been at least 1.86% to close the gap by 1/5<sup>th</sup> and keep up with National reductions (see footnote in Figure 4 for calculation of this required reduction). While CMMI has stated that they will not apply the readmission test in year 1 due to delays in establishing the base year data and remaining issues with the measurement, the Staff is recommending a target for CY 2016 that keeps the estimated shortfall for CY 2014 within the cumulative target that is being recommended for CY 2015--front loading the required improvement into the CY 2016 target rather than spreading it over the remaining four years. Thus in Figure 4, the Staff has projected the annual declines in Medicare readmission rates that Maryland would have to achieve (i.e., 3.90% in CY 2015, 2.89% in CY 2016, 2.91% in CY 2017 and 9.94% in CY 2018) to meet the Model Agreement’s requirement. In the scenario calculating these estimates presented below, the annual reduction in the national rate of Medicare readmissions was estimated to be 1.34% in CY 2015 through CY 2018 period, which was the average reduction over the last two years. Alternative

scenarios using the lowest improvement, average three-year improvement, and highest improvement over the last three years are presented in Appendix II.

**Figure 4: Historical and Projected Medicare Readmissions: Maryland vs. U.S. Using Two Year Average Reduction (Using the Most Recent Information Available from CMMI)**

	Nation		MD		Nation vs. MD
	% Readmissions	Percent Change in Rate of Readmissions	% Readmissions	% Readmissions	Percent Change in Rate of Readmissions
CY2011	16.68%		18.60%		
CY2012	16.16%	-3.10%	17.82%	-4.20%	10.24%
CY2013	15.78%	-2.34%	17.08%	-4.14%	8.21%
CY2014*	15.73%	-0.35%	16.94%	-0.80%	7.72%
CY2014 Targeted**			16.76%	<b>-1.86%</b>	<b>6.57%</b>
CY2015	15.52%	-1.34%	16.28%	<b>-3.90%</b>	4.92%
CY2016	15.31%	-1.34%	15.81%	-2.89%	3.28%
CY2017	15.10%	-1.34%	15.35%	-2.91%	1.64%
CY2018	14.90%	-1.34%	14.90%	-2.94%	0.00%

\* Note: the Actual CY 2014 rates have been estimated by applying the YTD October 2014/YTD October 2013 change in readmission rates to the CY 2013 readmission rates.

\*\* The CY2014 Targeted magnitude of necessary Maryland Medicare readmission reductions of -1.86% is derived by first subtracting the minimum improvement target of -1.64% from the CY 2013 gap of 8.21%, which would make the "Gap" in CY 2014 6.57% and the Maryland readmission rate would be reduced to 16.76%. A 16.76% Medicare readmission rate for CY 2014 represents a 1.86% reduction relative to the CY 2013 Medicare readmission rate of 17.08%. The formula to derive this number= (National CY2014 rate \* (1 + (CY2013 Gap - minimum estimated target) / CY2013 rate - 1)).

Figure 5 below contains the unadjusted and case-mix adjusted Medicare FFS and all-payer readmission rates using HSCRC case-mix data. The 0.80% reduction in Maryland Medicare unadjusted readmissions for CY 2014 reported by the most recent CMMI data, matches the results for Medicare based on the HSCRC data. However, given the absolute differences in readmission rates between data sources and the need to use a case mix adjusted rate for the purposes of evaluating individual hospital performance, the CMMI Medicare FFS targets calculated above need to be converted to a HSCRC case-mix adjusted target. Accordingly, Staff have calculated 2-year (CY 2014 and CY 2015) cumulative reduction targets of -5.78% for Medicare case-mix adjusted readmission rate and -9.31% for all-payer case-mix adjusted readmission rate. The precise methodology used to derive the cumulative adjusted Medicare specific and adjusted all-payer targets is described in Appendix III.

**Figure 5: HSCRC Medicare FFS and All-Payer Readmission Rates**

	Medicare FFS Unadjusted		Medicare FFS Case-mix Adjusted		All Payer Unadjusted		All Payer Case-mix Adjusted		Medicare-All Payer
	% Readmits	Percent Change in Rate of Readmits	% Readmits	Percent Change in Rate of Readmits	% Readmits	Percent Change in Rate of Readmits	% Readmits	Percent Change in Rate of Readmits	
2012	18.65%		13.86%		12.85%		12.94%		
2013	17.86%	-4.21%	13.25%	-4.42%	12.51%	-2.63%	12.52%	-3.21%	-1.0%
2014	17.72%	-0.80%	13.07%	-1.37%	12.05%	-3.70%	12.05%	-3.76%	3.0%
2012-2014		-5.0%		-5.7%		-6.2%		-6.8%	1.9%

**4. Consequences of Not Achieving Waiver Target for Readmissions**

In establishing a cumulative readmission reduction target for the RRIP for RY 2017, 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 loss of the waiver from the Medicare HRRP. The consequences of not meeting the target are stated in the Model Agreement:

*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.*

The imposition of the national Medicare HRRP on Maryland would reduce our ability to design, adjust and integrate our reimbursement policies based on local input and conditions consistently across all payers. 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 of setting up a much broader incentive systems that reflect the full range of conditions and causes of readmissions on an all-payer basis. Therefore, the Staff believes that it is appropriate to consider changes to the RRIP for RY 2017.



## **D. Discussion of Issues, Options and Future Considerations in the Establishment of the RRIP for RY 2017 Assessment**

The Staff has conducted an extensive series of Payment Models (PWG) and Performance Measurement Work Group (PMWG) meetings, pursued more recent data from CMMI, performed data analyses, and gathered other available information for the purpose of designing appropriate modifications of the RRIP for RY 2017.

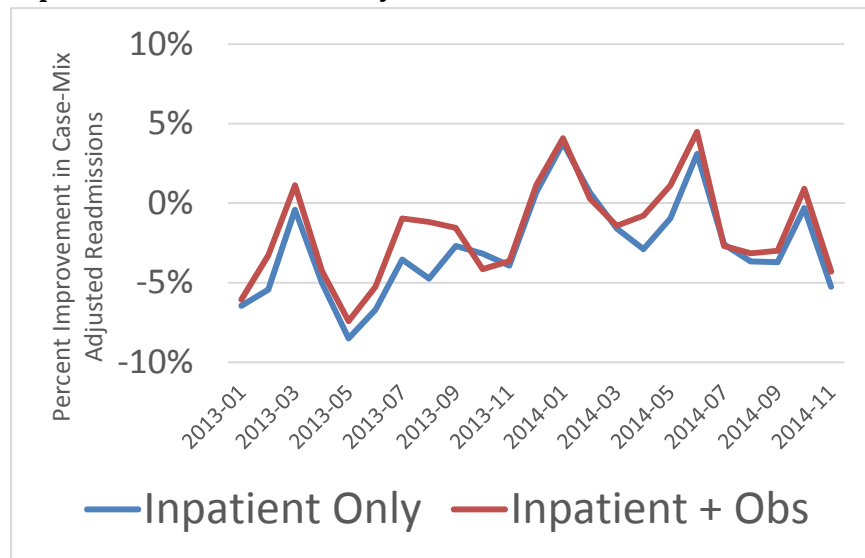
In formulating its recommendations for the RRIP for RY 2017, the Staff considered a host of different issues that were raised by Commissioners, workgroup members and other stakeholders concerning the RRIP, and examined various options for modifying the RRIP for RY 2017 to improve its fairness and effectiveness and to adapt it to the most recent readmission trends in Maryland and the U.S. In this section, and in the accompanying appendices, the Staff presents the most important issues that have been raised, the different viewpoints that have been expressed, and the pros and cons of the various actions that could be taken to establish an improved RRIP for RY 2017.

### **1. The Impact of Emergency Department (ED) Visits and Observation Stays**

To some extent, ED visits and observation stays can be substituted for inpatient readmissions. In the Final Recommendation for the RRIP for RY 2016, the Staff acknowledged the possible confounding effects of changes in the use of ED and observation services and promised to monitor the frequency of ER visits and observation stays within thirty days after discharge. In addition, the recommendation stated that adjustments would be made in the RRIP incentive rewards to hospitals if their reductions in readmissions were accompanied by disproportionate increases in observation stays after discharges. This adjustment was specified for observation stays only because there was less certainty regarding the extent to which ED services can substitute for inpatient stays.

The Staff has examined data regarding the percent improvement in readmissions by using inpatient data only and by examining inpatient data plus observation stays. Figure 6 shows that the drop in readmission rates found when observation stays are included in the analysis is slightly less than, but generally consistent with, the decline in readmission rates found when observation stays are excluded from the analysis (this relationship is true except for August 2013 compared to August 2012). Based on this overall data, the Staff is less concerned about the possibility that the decline in readmission rates was caused by increases in the use of observation stays in CY 2014. However, the Staff will examine the observation visit trends for individual hospitals for the purposes of determining whether adjustments should be made to the RY 2016 RRIP rewards.

**Figure 6: Medicare Unadjusted Monthly Improvement Trends for Inpatient Only vs. Inpatient + Observation Stays**



## 2. The Impact of Socioeconomic/Demographic Factors on Readmission Rates

Substantial evidence exists that hospital readmission rates are affected to some degree by socioeconomic/demographic factors (SES/DS)—such as income, education, race, occupation, etc.—and that inclusion of these factors in the establishment of targets for readmission levels would probably 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 indexes 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 in its formative stages. Such indices may have special relevance in the future in Maryland, given the GBR and TPR arrangements that exist with all of the hospitals, if a methodology can be devised to reliably link geographically-based indices of socioeconomic disadvantage to particular hospitals or groups of hospitals based on their patient service areas.

Finally, public health policy issues need to be considered as we explore SES/D adjustments. While reducing readmissions for disadvantaged populations may require additional investments and time, adjusting for SES/D may draw focus away from this important work.

In a preliminary effort to evaluate the impact of socioeconomic factors on readmission rates, the Staff used the percent of Medicaid patients at the individual Maryland hospitals as a proxy for the level of socioeconomic disadvantage at the individual Maryland hospitals and examined its relationship to their degree of improvement in readmission rates. In addition, the Staff examined the correlation between DSH payments and readmission rates and the observed improvement in readmission rates. The Staff did not find a strong correlation between these factors (see Appendix IV). This finding does not disprove the relevancy of SES/D factors in the establishment of readmission targets; in fact, SES/D factors probably do have impacts that ought to be considered. It merely indicates that the measures available to us at this time are probably inadequate.

Given these concerns, the Commission could elect to make some adjustments in the readmission targets and policies to be set in the RRIP for RY 2017 using relatively crude measures (such as the percentage of a hospital's total inpatient cases accounted for by Medicaid and/or low income Medicare patients) or it could elect to postpone any such adjustments to the RRIP for CY 2015, or even beyond, until more information and better techniques may be available for such adjustments. Currently, Staff is in the process of setting up a subgroup of stakeholders to review options for SES/D adjustments.

### **3. Medicare vs. All Payer Readmission Targets**

As noted in Section B, the PMWG established a set of guiding principles for the RRIP, and included among those principles was the recommendation that the RRIP should establish all-payer readmissions targets. The key reason for this preference for an all payer test, rather than a Medicare-only test, was the desire to provide hospitals with an incentive to develop overall readmission reduction programs that would bring benefits to all patients and allow hospitals to operate with consistent financial incentives across patient populations and be consistent with other Maryland quality programs (i.e., Quality Based Reimbursement and Maryland Hospital Acquired Conditions programs).

When the RRIP for CY 2016 was being formulated, the Staff examined the available data and found a strong positive correlation between reductions in all-payer readmissions and reductions in Medicare readmissions (see Appendix IV). However, more recent data indicate that the relationship between all-payer and Medicare readmission trends changed in CY 2014. As shown in Figure 3, all payer readmissions dropped by 4.04%, whereas Medicare readmissions dropped by only 1.63%, during the YTD October 2013 to YTD October 2014 period. Appendix V also shows the monthly improvement in readmissions compared to the previous year and highlights that, in CY 2013, the unadjusted Medicare improvement was slightly higher or the same as the all-payer risk adjusted readmission improvement, but for CY 2014 the Medicare improvement was consistently lower. While these findings raise the important question of whether the establishment of all payer readmission targets is a reliable way to achieve the required reductions in Medicare readmissions, it is difficult to predict whether the most recent trend will continue.

The primary reasons to establish a Medicare-only test include the following supporting arguments. First, the Model Agreement establishes very clear requirements for Medicare readmission reductions and places Maryland at risk for losing its ability to establish its own readmissions reduction policies for the Medicare program if it fails to meet these requirements. Second, as evidenced by the most recent data, improvements in all payer readmissions rates may or may not be accompanied by required Medicare readmission reductions that are consistent with the requirements imposed by the Model Agreement. Third, Maryland needs to lower its Medicare readmission rate by 1.93% per year, over the remaining four years of the Model Agreement (the CY 2014 of 7.72% Gap shown on Figure 4 divided by the 4 remaining years), even if the national rate of Medicare readmissions does not decline, and failure to achieve the needed decline in CY 2015 could put Maryland in the very difficult position of needing to make very large (or impossible) reductions over the final three years of the waiver.

On the other hand, moving to a Medicare specific quality benchmarks has the following drawbacks. First, the change in the payment policy may drive quality improvement projects away from other vulnerable populations, such as complex vulnerable patient populations, especially Medicaid

patients. Second, as part of the all-payer system Maryland hospitals have been organizing their efforts from a broader perspective, and a change in the direction of these policies towards more Medicare specific approaches may delay the progress that more targeted approaches are assumed to provide. Third, as the Medicare readmissions comprise 50% of the readmissions in the state, all-payer strategies will require successful results in Medicare readmissions as well. Improving the effectiveness of the existing programs that are on an all payer basis may provide a more timely strategy rather than redesigning the incentives around Medicare readmission. Fourth, although recent Medicare data received from CMMI showed readmission trends that were similar to those that have been found in the HSCRC's data, but these data have not yet been validated by HSCRC Staff. The current readmission measure is considered to be an "interim" measure by both HSCRC and CMMI Staff and both parties intend to continue to work to revise the Medicare readmission measure to include a comparable patient population and suitable risk adjustments. For example, Medicare's national numbers may not include the utilization of special licensed beds in acute hospitals, such as chronic and psychiatry beds, and the patients who are treated in these beds may have relatively high readmission risks. These issues complicate the establishment of an appropriate Medicare-only readmission target, since it is unclear what the actual gap is between Maryland and the nation. Finally, a Medicare-specific target might create challenges in the balancing of payment incentives between hospitals with relatively high concentrations of Medicare patients vs. Medicaid patients.

Staff has also considered the option of establishing two separate RRIP targets (one for Medicare and one for non-Medicare) accompanied by two scales, or a blended scale, for the determination of rewards and penalties. While this option would be more difficult to implement, it could ensure that the Medicare target is given equal but separate attention by hospitals and maintain incentives for the hospitals to pursue readmission reductions for other payers. This approach might cause hospitals to re-evaluate their readmission improvement strategies and this could lead to lesser improvements for Medicare and other payers. In fact having two separate goals will almost certainly require hospitals to ensure their current interventions work on an all-payer basis or they may need to implement different strategies to achieve improvements in both. As mentioned previously, this may also create additional challenges to balance incentives across hospitals with differences in payer mix and lessen hospitals abilities to set their own priorities for focus. Finally, measuring and setting targets for different payers, could fragment its efforts to set broad, all-payer incentives for all-quality programs and would be a fundamental shift away from the strengths of the all-payer system.

Staff supports maintaining the all payer test for another year, while making other modifications to the RRIP, or it could adopt a Medicare-specific test (with or without a separate non-Medicare target). The choice between an all payer target and a Medicare-specific target depends, at least in part, on an assessment of the consequences of missing the Medicare target and an assessment of how a Medicare specific target or two different payer targets will impact the quality programs in the state. The CMMI staff has indicated that the Medicare readmissions trends in CY 2015 will be assessed using either the interim measure or the final measure developed during CY 2015. If Maryland does not achieve the required Medicare readmission reduction, the state will be required to submit a corrective action plan. See Appendix V for specific contract language regarding corrective action plans.

#### **4. Rewards, Penalties and Scaling Methodology**

As described above, the RRIP reward that was available to hospitals that met the 6.76% all payer readmissions reduction target was 0.5% of permanent inpatient revenue. No penalty was assessed against hospitals that failed to meet the targeted reduction. Hospitals that improved by more than 6.76% got no additional reward for their performance, and hospitals that fell just short of the 6.76% “step” received no reward, even though the difference between their performance and the performance of a hospital that just made the step, and received the reward, could be infinitesimally small.

Based on feedback from Commissioners and stakeholders, the Staff have considered the question of whether the reward of 0.5% of inpatient revenue is sufficient to create a cost/benefit opportunity that will motivate hospitals to make the investments of time, money and other resources that are needed to tackle the complex problem of reducing unnecessary readmissions. The average Maryland hospital has approximately \$200 million of permanent inpatient revenue; therefore, 0.5% of this amount is \$1,000,000. The costs of hiring qualified Staff and making the related investments needed to conduct an effective readmissions strategy can easily consume a large share of this incentive reward. Therefore, it is important to consider whether the establishment of a larger incentive reward, such as 1.0% of permanent inpatient revenue, is warranted.

The two primary arguments against the creation of a larger reward are, first, that any rewards must be funded within the overall revenue increase caps imposed by the Model Agreement, and there might be better uses for these funds; and, second, that the GBR and TPR incentive structures already give hospitals powerful financial incentives to reduce unnecessary utilization, including readmissions, and putting additional money (or any money) into the RRIP incentive program is a superfluous exercise.

The key arguments for introducing a penalty into the RRIP for CY RY 2017 are that positive incentives may not create necessary momentum for substantial quality improvements; and the combined use of a positive reward (which might be raised above 0.5% to 1.0%) and a penalty would raise the stakes for hospitals and make effective actions more economically justifiable and likely.

#### **5. Annual vs. Cumulative Measurements**

In the Draft Recommendation for the RRIP for RY 2017, which the Staff presented to the Commission on December 10, 2014, the Staff advocated the use of a cumulative measurement—rather than a current, year-specific measurement—to assess improvements in readmission levels on a hospital-specific basis. In a year-specific structure, the determination of a hospital’s progress in reducing readmission rates would be based solely on the change in its readmission rate, relative to its expected rate, from the previous performance year to the most recent performance year (i.e., from CY 2014 to CY 2015 for the RRIP for CY RY 2017). A cumulative measurement would compute the hospital’s progress to date in lowering its readmission rate relative to its readmission rate in CY 2013 (which was the base year for the RRIP for RY 2016).

The Staff had two primary reasons for recommending that the Commission should adopt a cumulative measure. First, the Model Agreement sets a cumulative requirement—namely, Maryland must bring its Medicare readmission rate to a level that is at or below the national Medicare readmission rate by CY 2018 and we must make scheduled, cumulative progress toward

that goal. Hospitals that make progress in any given year may jeopardize our continued exemption from the national Medicare readmissions reduction program if they have not achieved cumulative progress that is consistent with the Model’s requirements. Second, we believe that reductions in readmissions may become harder and harder over time because the simplest, most easily implemented interventions will probably be tried first, and will probably achieve considerable success, and the problem of achieving additional improvements may become tougher over time.

The primary objection to the use of a cumulative measure—which is that hospitals that fall behind on a cumulative basis may see no prospect of earning a reward in a given year if measured on a cumulative basis and may, therefore, elect not to make the needed efforts—would be undercut if the Commission adopts two other changes that have been discussed for the RRIP for CY RY 2017. Specifically, if the Commission moves to continuous scaling, rather than the “step” or “threshold” approach, hospitals will have an ongoing incentive to achieve whatever improvements they can generate because the “either or” implications that are associated with the step approach to incentive calculations will be eliminated; and, second, if the Commission introduces penalties into the RRIP for CY RY 2017, in conjunction with continuous scaling, all hospitals will have an incentive to improve by whatever increments they believe are achievable in any particular year and over the CY 2015 through CY 2018 period.

## **6. The “Denominator” Issue**

During the meetings with the Performance Measurement Work Group, participants expressed concerns that the calculation used to measure progress in readmission reductions in the RRIP for FY 2016—which is consistent with the calculation that is being used by CMS and CMMI—may work to the detriment of hospitals that are achieving reductions in their overall level of admissions, including both “primary” admissions and readmissions, and may undermine the incentives to reduce total admissions that are a core feature of the GBR and TPR arrangements.<sup>2</sup> However, this effect applies both to Maryland and to the nation because the Model Agreement stipulates that the readmissions/discharges formula must be used when comparing Medicare readmission rates in Maryland and elsewhere in the U.S. While this formula masks some of the improvements in Maryland and in the U.S, the Staff and CMMI will also monitor per capita readmission improvements as well.

In terms of the RRIP, the Staff believes that the use of the case-mix adjusted observed to expected readmission rate as the hospital-specific performance metric lessens most of the concerns regarding the denominator issue (see Appendix VII for readmission measurement specifics, including exclusions, and Appendix VIII for details on case-mix adjustment). The case-mix adjusted readmission rate is calculated using the observed to expected readmissions ratio at each hospital multiplied by the statewide readmission rate during the base period. Because the expected number of readmissions is based on the same denominator as the observed readmissions, the changes in the total admissions are reflected in both the observed and expected numbers. Appendix IIX provides an example in which the unadjusted readmission rate increases overtime due to a decline in total admissions, but the case-mix adjusted readmission rate declines. However, concerns have

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<sup>2</sup> In the CMS readmission logic, all discharges are considered as index admissions; therefore, a readmission is also part of the denominator count. We are using the term “primary” to indicate index admissions that are not readmissions.

been raised about the possible changes and adequacy of case-mix adjustment. Staff will continue to work with the stakeholder and experts to assess the impact of the denominator during CY 2015.

## **E. Improvement Action Plans**

The Staff has recommended changes to the RRIP program that strengthen the incentives to reduce readmissions as required under the agreement with CMMI. The Staff has also recommended a cumulative target for CY 2015 that would make up for the estimated shortfall relative to the CY 2014. The Staff will continue to work with CMMI to refine the final target calculations and monitor national trends.

In the past, Maryland's QIO provided some condition specific information to help target efforts. As illustrated earlier in this document, hospitals have made significant strides in reducing readmissions and in closing the gap between the higher rate of readmissions in Maryland and the national average. Maryland could benefit from more comparative national benchmarks and analysis of national versus Maryland data as it renews its efforts to close the gap and understand the drivers of variation. HSCRC Staff have begun to work with the new Maryland QIO, VHQC, and now participates as an invited participant on the VHQC Quality Reporting and Incentive Program Advisory Committee. Staff will continue to collaborate with both VHQC and CMMI Staff to focus on obtaining additional benchmarks and recommendations for improvements.

Staff has been working with a multi-agency and stakeholder work group, the Care Coordination Work Group, to focus on opportunities to improve infrastructure for care coordination for high need and complex patients and reduction of risks related to chronic conditions. Implementation of infrastructure and care coordination and integration strategies will help create more comprehensive and sustainable approaches to reduce avoidable hospitalizations and readmissions. The Commission will evaluate the recommendations from this process and should continue to seek advice regarding those strategies that are best suited to improve care and produce the sustainable results we are seeking.

## **F. Recommendations**

After consideration of the information, issues and options that have been discussed above in this document, the Staff is providing the following recommendations for the RRIP for RY 2017 (which would compare performance in CY 2013 to performance in CY 2015):

1. Adopt a readmission payment incentive program with both rewards for hospitals achieving or exceeding the required readmission reduction benchmark and payment reductions for hospitals that do not achieve the minimum required reduction.
2. Use a continuous preset scaling approach to provide rewards and penalties in proportion to the each hospital's performance relative to the required reduction on a case-mix adjusted basis.
3. Continue to set a minimum required reduction benchmark on all-payer basis and re-evaluate the option to move to a Medicare specific performance benchmark for CY2016 performance period.

4. Set the all-payer case-mix adjusted readmission target at 9.5% cumulative reduction from CY 2013 base all payer case-mix adjusted readmission rates.
5. Continue to assess the impact of admission reductions, SES/D and all payer and Medicare readmission trends and make adjustments to the rewards or penalties if necessary.
6. Seek additional Medicare benchmarks that can help guide efforts in Maryland. Evaluate recommendations from the Care Coordination Work Group and request recommendations from Maryland's new QIO regarding specific areas for improvement.



## Appendix I. CMS Medicare Readmission Rates for FFY2015

Hospital Name	Number of Pneumonia Cases	Excess Readmission Ratio for Pneumonia	Number of Heart Failure Cases	Excess Readmission Ratio for Heart Failure	Number of Acute Myocardial Infarction Cases	Acute Myocardial Infarction Excess Readmission Ratio	Number of Hip/Knee Arthroplasty Cases	Hip/Knee Arthroplasty Excess Readmission Ratio	Number of Chronic Obstructive Pulmonary Disease Cases	Chronic Obstructive Pulmonary Disease Excess Readmission Ratio	Average
NORTHWEST HOSPITAL CENTER	628	1.21	797	1.20	151	1.07	180	0.92	599	1.15	1.11
DOCTORS' COMMUNITY HOSPITAL	410	1.25	490	1.01	38	0.99	170	1.33	371	0.93	1.10
SINAI HOSPITAL OF BALTIMORE	391	1.09	928	1.02	466	1.01	676	1.38	363	1.00	1.10
MEDSTAR MONTGOMERY MEDICAL CENTER	429	1.04	437	1.17	99	1.10	314	1.15	380	1.05	1.10
SHADY GROVE ADVENTIST HOSPITAL	677	1.07	515	1.09	194	1.04	574	1.23	430	1.07	1.10
SAINT AGNES HOSPITAL	862	1.01	761	1.07	184	0.89	390	1.51	670	1.00	1.10
UNIVERSITY OF MD CHARLES REGIONAL MEDICAL CENTER	348	1.07	428	1.00	25	1.09	190	1.28	608	1.01	1.09
SOUTHERN MARYLAND HOSPITAL CENTER	386	1.12	694	1.07	171	1.08	161	1.03	427	1.14	1.09
UNIVERSITY OF MARYLAND MEDICAL CENTER	165	1.13	329	1.14	512	1.12	57	1.04	122	1.00	1.09
UNIVERSITY OF MD SHORE MEDICAL CTR AT CHESTERTOWN	190	0.96	265	1.01	29	1.03	77	1.33	263	1.10	1.08
MEDSTAR HARBOR HOSPITAL	278	0.91	409	1.16	64	0.97	209	1.30	436	1.06	1.08
LAUREL REGIONAL MEDICAL CENTER	103	1.02	176	1.02	46	1.09	78	1.20	127	1.07	1.08
CALVERT MEMORIAL HOSPITAL	380	1.10	556	1.02	70	0.97	149	1.33	403	0.98	1.08
UNION HOSPITAL OF CECIL COUNTY	353	1.02	290	1.05	87	1.07	206	1.25	590	1.01	1.08
PRINCE GEORGES HOSPITAL CENTER	102	1.10	265	1.11	144	1.06	25	1.00	157	1.11	1.08
MERCY MEDICAL CENTER INC	199	1.06	340	1.03	28	1.09	1037	1.19	239	0.98	1.07
JOHNS HOPKINS BAYVIEW MEDICAL CENTER	485	1.15	850	1.10	181	1.10	432	0.91	575	1.09	1.07
UNIVERSITY OF MD BALTO WASHINGTON MEDICAL CENTER	1014	1.19	1198	1.16	264	0.93	404	0.99	1167	1.06	1.07
MEDSTAR GOOD SAMARITAN HOSPITAL	352	1.25	1037	1.01	150	1.11	578	0.91	518	1.06	1.07
ANNE ARUNDEL MEDICAL CENTER	849	1.08	1151	1.09	365	1.09	1849	1.01	785	1.05	1.06
HOWARD COUNTY GENERAL HOSPITAL	692	1.15	590	1.11	131	0.96	104	1.05	654	1.03	1.06
MEDSTAR FRANKLIN SQUARE MEDICAL CENTER	726	1.00	1297	0.99	314	1.00	308	1.27	1134	1.02	1.06
HOLY CROSS HOSPITAL	391	1.03	607	1.07	142	1.03	314	1.10	373	0.99	1.05
ATLANTIC GENERAL HOSPITAL	297	0.98	311	0.89	27	1.10	232	1.14	369	1.05	1.03
UNIVERSITY OF MARYLAND HARFORD MEMORIAL HOSPITAL	173	1.01	263	0.98	51	1.02	55	1.08	311	1.04	1.03
FREDERICK MEMORIAL HOSPITAL	982	1.04	926	0.98	280	0.99	608	1.05	904	1.05	1.02
CARROLL HOSPITAL CENTER	600	1.04	760	0.98	213	1.01	535	1.10	702	0.98	1.02
UNIVERSITY OF MD SHORE MEDICAL CENTER AT EASTON	558	1.01	931	0.99	105	1.06	511	1.03	779	1.02	1.02
UNIVERSITY OF M D UPPER CHESAPEAKE MEDICAL CENTER	410	0.94	800	1.02	269	1.06	388	1.05	788	0.98	1.01
SUBURBAN HOSPITAL	557	0.97	637	1.04	360	1.02	997	0.95	269	1.06	1.01
CENTER	756	1.05	881	1.05	393	1.02	605	0.94	939	0.98	1.01
WASHINGTON ADVENTIST HOSPITAL	222	1.00	480	1.09	439	1.01	106	0.99	252	0.95	1.01
CENTER	80	0.96	157	0.98	40	1.01	45	1.00	122	1.06	1.00
MEDSTAR SAINT MARY'S HOSPITAL	300	0.92	440	1.08	70	1.00	318	0.88	459	1.02	0.98
GARRETT COUNTY MEMORIAL HOSPITAL	137	0.90	173	1.08	38	0.98	177	0.84	149	1.06	0.97
GREATER BALTIMORE MEDICAL CENTER	569	0.93	540	0.92	47	0.98	510	1.12	369	0.89	0.97
MEDSTAR UNION MEMORIAL HOSPITAL	253	0.97	636	0.94	653	0.99	1146	0.96	308	0.90	0.95
SAINT JOSEPH MEDICAL CENTER	299	1.00	784	0.96	543	0.87	1158	0.98	395	0.94	0.95
UNIVERSITY OF MARYLAND ST JOSEPH MEDICAL CENTER	50	0.95	160	0.96	82	0.97	266	0.93	82	0.93	0.95
MERITUS MEDICAL CENTER	1174	0.97	587	0.99	281	0.91	781	0.78	717	0.99	0.93
PENINSULA REGIONAL MEDICAL CENTER	857	0.91	1290	0.92	734	0.91	931	0.88	670	0.87	0.90
FORT WASHINGTON HOSPITAL	105	0.99	189	1.13	3		71	1.08	148	1.23	1.11
JOHNS HOPKINS HOSPITAL, THE	323	1.10	730	1.02	496	1.06	12		227	0.98	1.04
BON SECOURS HOSPITAL	86	0.99	188	1.06	9		2		112	1.02	1.03
UNIVERSITY OF MD MEDICAL CENTER MIDTOWN CAMPUS	110	1.03	144	1.04	9		14		146	1.00	1.02
EDWARD MCCREARY MEMORIAL HOSPITAL	52	0.96	50	1.00	5		0		56	0.95	0.97
UNIV OF MD REHABILITATION & ORTHOPAEDIC INSTITUTE	3		7		0		254	1.28	2		1.28
LEVINDALE HEBREW GERIATRIC CENTER AND HOSPITAL	0		0		0		0		0		NA
<b>Number of Cases</b>		19,363		26,474		9,002		18,204		20,666	
<b>Hospital Average Ratio</b>		1.04		1.04		1.02		1.09		1.02	1.04
<b>Percent of Hospitals Above National Average</b>		61%		70%		61%		59%		59%	83%

## Appendix II: Maryland Readmission Targets Based on 4 Scenarios for National Trend

	Lowest Improvement	2 Year Average	3 Year Average	Highest Improvement
National Trend CY12-14	-0.35%	-1.34%	-1.93%	-3.10%
<b>CMMI Medicare Unadjusted Targets</b>				
CY14 Actual	-0.8%	-0.8%	-0.8%	-0.8%
CY15 Target	-2.9%	-3.9%	-4.5%	-5.6%
Cumulative	<b>-3.71%</b>	<b>-4.67%</b>	<b>-5.24%</b>	<b>-6.36%</b>
<b>HSCRC Medicare Casemix Adjusted Target</b>				
CY14 Actual	-1.4%	-1.4%	-1.4%	-1.4%
CY2015	-3.5%	-4.5%	-5.0%	-6.2%
Cumulative	<b>-4.83%</b>	<b>-5.78%</b>	<b>-6.34%</b>	<b>-7.46%</b>
<b>HSCRC All Payer Casemix Adjusted Target</b>				
CY14 Actual	-3.8%	-3.8%	-3.8%	-3.8%
CY2015	-4.8%	-5.8%	-6.3%	-7.5%
Cumulative	<b>-8.38%</b>	<b>-9.31%</b>	<b>-9.86%</b>	<b>-10.96%</b>

## Appendix III: Conversion of CMMI Medicare Unadjusted Target to an HSCRC Case-mix Adjusted Target

<b>CMMI Medicare Unadjusted Targets</b>		<b>% Readmission Rate Reduction</b>
CY14 Actual	A	-0.80%
CY15	B	-3.90%
Cumulative	$C=(1+A)*(1+B)-1$	<b>-4.67%</b>
<b>HSCRC Medicare Casemix Adjusted Target</b>		
CY14 Actual	D	-1.37%
CY15	$E = B-0.57\%$	-4.47%
Cumulative	$F = (1+D)*(1+E)-1$	<b>-5.78%</b>
<b>HSCRC All Payer Casemix Adjusted Target</b>		
CY14 Actual	G	-3.76%
CY15	$H = B-1.91\%$	-5.77%
Cumulative	$I = (1+G)*(1+H)-1$	<b>-9.31%</b>

Because the HSCRC Staff is recommending the use of an adjusted all-payer cumulative target for the RY 2017 RRIP, the targets established for Medicare (based on the most recent data from the CMMI) must be converted to an HSCRC all-payer case mix adjusted target.

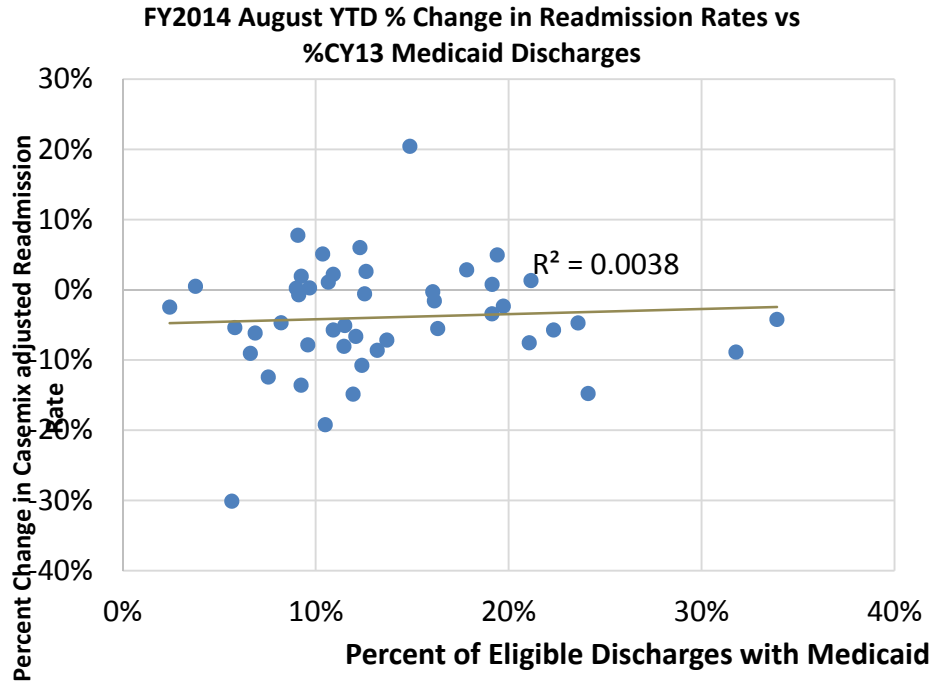
This conversion is illustrated in the table above and involves the following steps:

- 1) The Staff starts with the amount that it has calculated to be the required reduction in CY 2015 for Medicare FFS unadjusted readmission rates of -3.90%, necessary to bring Maryland back on pace to be at or below U.S. Medicare readmission rates by the end of CY 2018 (the -3.90% Medicare unadjusted target is shown in the table above on line B and also calculated and highlighted in yellow in Figure 4 on page 7);
- 2) Over the period CY 2012 to CY 2014 Staff has observed that the HSCRC all-payer adjusted readmission rate has declined 1.91% more than the HSCRC Medicare unadjusted readmission rate column (6.8% = the two year average all-payer adjusted readmission reduction – 5.0% = the two year average Medicare unadjusted readmission reduction);
- 3) This average difference in the all-payer and Medicare adjusted readmission rate reductions is then added to the original unadjusted Medicare readmission reduction target of -3.90% to calculate the all-payer adjusted readmission reduction target for CY 2015 (-3.90% - 1.91% = -5.77% shown on line H above);
- 4) Because the Staff intends to use a cumulative two-year all-payer readmission reduction target actual CY 2014 all-payer adjusted readmission result (of -3.76%) must be combined with the

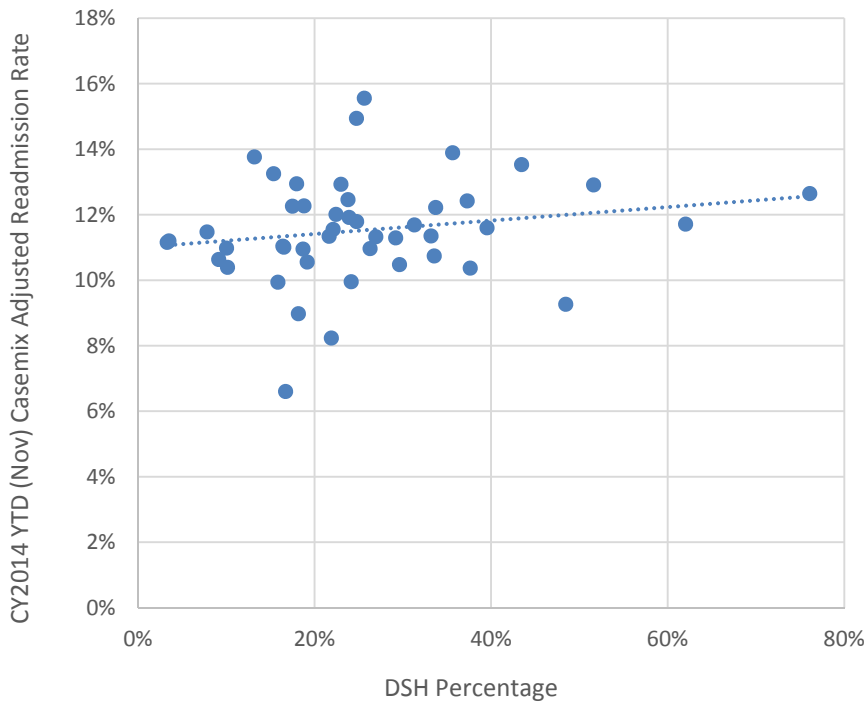
targeted all-payer adjusted readmission (-5.77%) calculated in step 3. The compounding of these two percentage reductions results in the calculated cumulative all-payer adjusted readmission reduction target of -9.31% (as shown on line I above).

# Appendix IV: Analysis of Medicaid and DSH payments and Readmission Rates

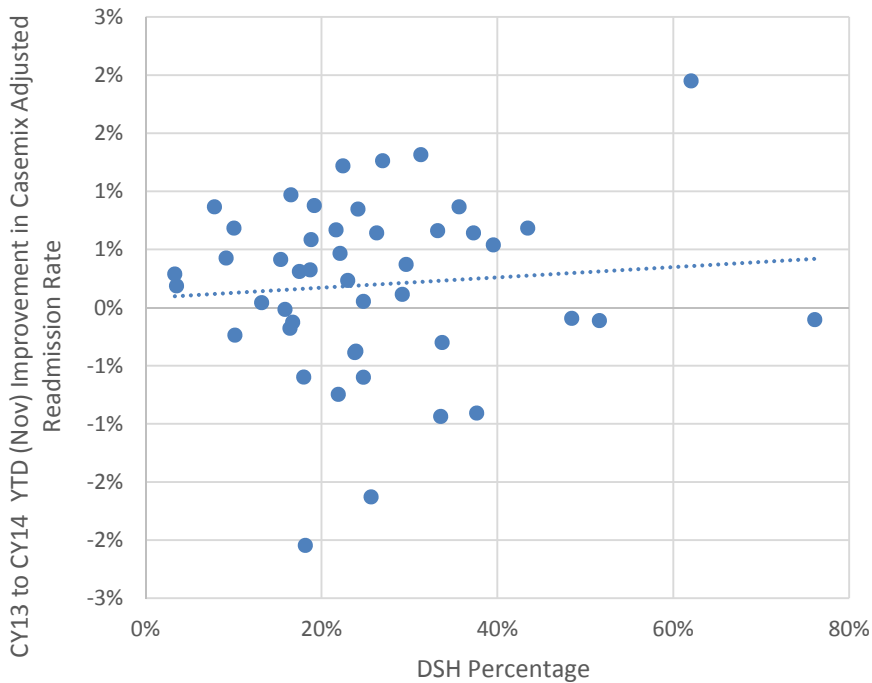
## No Correlation in Readmission Rates with % of Medicaid Admissions



**DSH Percentage and Casemix Adjusted Rate by Hospital**

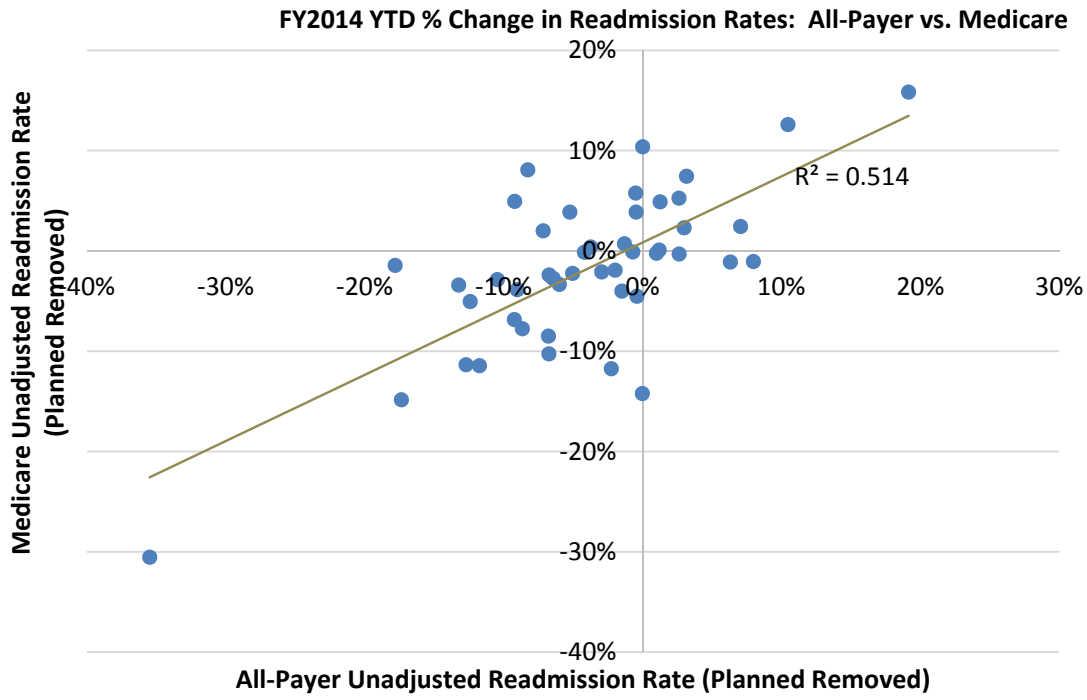


**DSH Percentage and Improvement in Casemix Adjusted Readmission Rate by Hospital**

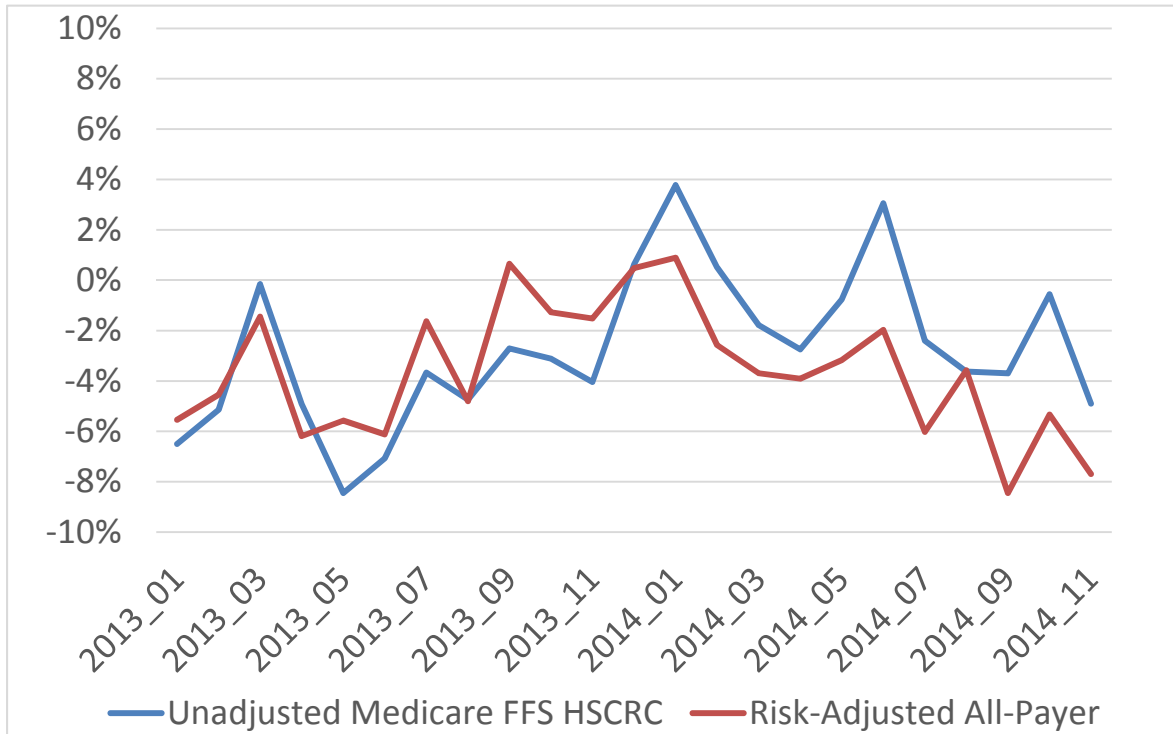


## Appendix V: All-Payer vs. Medicare FFS Improvement

Higher Correlation of Medicare and All-Payer Readmission Rates



Monthly Improvement Trends (Annual Change) in Unadjusted Medicare vs. Case-mix Adjusted All-Payer Readmissions



## Appendix VI: Contract Language on Corrective Action Plans

### 1. Corrective Action and Termination of Model and/or Waivers.

- a. **Warning notice and corrective action plan (“CAP”).** If CMS determines that a Triggering Event (as defined in this section) has occurred, CMS shall provide written notice to the State that it is not meeting a requirement of this Agreement (“Warning Notice”) with an explanation and, as permitted by applicable law, data supporting its determination. CMS shall provide the State with the Warning Notice no later than six months following the end of the applicable Performance Year for any Triggering Event specified in Section 14.c.ii-vii; CMS may provide the Warning Notice at any time for all other Triggering Events in Section 14.c. Within 90 calendar days of receipt of the Warning Notice, the State must submit a written response to CMS. CMS will review the State’s response within 90 calendar days and will either accept the response as sufficient or require the State to submit a CAP within 30 calendar days addressing all actions the State and/or participants in the Model will take to correct any deficiencies and remain in compliance with this Agreement. Options for the CAP may include, but are not limited to, new safeguards or programmatic features, modification to the Model, and/or prospective adjustments to hospital payment levels. In developing its CAP, the State shall consult with CMS as to whether the CAP fully corrects any deficiencies. Approval of the CAP shall be at the sole discretion of CMS.
  - i. **Review factors considered by CMS.** A Triggering Event may or may not require corrective action, depending on the totality of the circumstances. CMS will consider whether the State can demonstrate a factor unrelated to the Model caused the Triggering Event (e.g., a localized disease outbreak solely in Maryland, expansion of health insurance coverage under the Affordable Care Act, the construction of the new hospital facility in Prince George’s County). Notwithstanding the above, CMS, in its sole discretion, will determine the sufficiency of the State’s response to any Warning Notice issued pursuant to this section.
- b. **Implementation of CAP.** The State shall successfully implement any required CAP as approved by CMS, by no later than 365 calendar days from the date of postmark of the Warning Notice. If the Triggering Event is related to an aspect of the Model involving a Waiver from the Act, as specified in Section 4.c., d., e., and f., CMS, in its sole discretion, shall decide whether to allow the State to maintain such Waiver during the time period that the State is under the CAP. In making this determination, CMS shall consider whether the State can demonstrate that it is implementing a program for Regulated Maryland Hospitals and, as applicable, other hospitals in Maryland that achieves or surpasses the measured results in terms of patient outcomes and cost savings established under the applicable section of the Act from which it was waived.



## Appendix VII. HSCRC Methodology for Readmissions RY2017

### READMISSIONS

CY 2013 inpatient data, with EIDs (base year), is used to calculate the readmission rates for all-payer and Medicare patients.

### EXCLUSIONS

The following were removed from the readmission rate calculations:

1. Rehab hospitals (provider ids 213028,213029, 213300)
2. Cases with null or missing EIDs
3. Duplicates
4. Negative interval days
5. Newborn related APRDRGs.
6. For risk adjustment, based on admission DRGs, exclude DRG and SOI cells with < 2
7. Exclude those who have died (from denominator) and those with same day transfers (interval days = 0) (from readmissions)

### RESULTS

1. Two numerators (readmissions within 30 days of a hospitalization)
  - a. Unadjusted readmissions (comparable to CMS)
  - b. Adjusted readmissions (exclude planned admissions, based on the Clinical Classification System (CCS) to flag planned admissions)
2. Denominator – Total number of discharges
3. Expected Readmissions based on Discharge DRG and Severity of Illness.
4. Calculate Ratio – Adjusted readmissions / expected readmissions
5. Risk Adjusted Readmission Rate – Ratio\*Overall state rate

The key methodology components of the Readmission Reduction Incentive Program are described below.

- **Readmission definition-** Total readmissions/total admissions to any acute hospital<sup>3</sup>
- **Broad patient inclusion-** For greater impact and potential for reaching the target the measure should include all payers and any acute hospital readmission in the state.

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<sup>3</sup>Discharge can both be initial and readmission; one readmission within 30 days is counted; transfers are combined into a single stay; and the 30-day period starts at the end of the combined stay, Left against medical advice is also included in the index. Admissions with discharge status of “Died” are excluded.

- **Patient exclusion adjustments-** To enhance fairness of the methodology, planned admissions (using the updated CMS Algorithm) and deliveries should be excluded from readmission counts.
  - **Scale positive and negative incentives-** If statewide Medicare readmission reduction target is met, hospitals that reach or exceed the hospital-specific improvement target have the opportunity to earn the incentives and hospital will be assessed penalties if they have an increase in readmission rates. If the statewide Medicare readmission reduction target is not met, hospitals will have an opportunity to earn a reduced incentive, and hospitals will be assessed penalties if they do not meet the minimum improvement target.
  - **Performance measurement consistent across hospitals-** A uniform improvement benchmark for all hospitals was established for the first year and will be evaluated annually. Given the debate whether socio-economic and demographic factors should be used in readmission risk adjustment and that arguments could be made to lower readmission targets for high readmission hospitals if they serve hard to reach populations, Staff recommends using a uniform achievement benchmark for all hospitals.
- Monitor for unintended consequences-** Observation and ED visits within 30 Days of an inpatient stay will be monitored; adjustments to the positive incentive will be made if observation cases within 30 days increase faster than the other observations in a given hospital.

## Appendix VIII: Case-Mix Adjustment Methodology in Readmission Reduction Incentive Program

### 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 severity of illness 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 proportion or percent of admissions which have a readmission.

The rates of readmissions in the normative database are calculated for each APR DRG category and its severity of illness levels by dividing the observed number of readmissions by the total number of discharges. The readmission norm for a single APR DRG severity of illness 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 severity of illness 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 severity of illness 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.

Table 1 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>	500	45	.09		56.5

For the APR DRG category, the number of discharges with readmission is 45, which is the sum of discharges with readmission (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.,  $0.09 = 44/500$ . From the normative population, the proportion of discharges with readmissions for each severity of illness level for that APR DRG category is displayed in column 5. The expected number of readmissions for each severity of illness 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 severity of illness levels.

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 be expressed as a percentage difference as well.

APR DRG 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 IIX: Denominator Impact of Case-mix Adjustment

Base Period						Performance Period					
ACTUAL TOTAL ADMITS	ACTUAL PRIMARY ADMITS	ACTUAL READMITS	ACTUAL READMITS / ACTUAL TOTAL ADMITS	ACTUAL READMITS / ACTUAL PRIMARY ADMITS	RISK-ADJUSTED READMISSION RATE	ACTUAL TOTAL ADMITS	ACTUAL PRIMARY ADMITS	ACTUAL READMITS	ACTUAL READMITS / ACTUAL TOTAL ADMITS	ACTUAL READMITS / ACTUAL PRIMARY ADMITS	RISK-ADJUSTED READMISSION RATE
1,000	861	139	13.90%	16.14%	13.66%	855	736	119	13.92%	16.17%	13.44%
<b>Absolute Difference</b>						-145	-125	-20	0.02%	0.02%	-0.22%
<b>Percent Difference</b>						-14.50%	-14.52%	-14.39%	0.13%	0.15%	-1.62%

APR DRGs (BY SOI)	Base Period						Performance Period					
	ACTUAL TOTAL ADMITS	EXPECTED READMITS / ADMITS	EXPECTED READMITS	ACTUAL READMITS	ACTUAL READMITS / ACTUAL TOTAL ADMITS	ACTUAL READMITS / ACTUAL PRIMARY ADMITS	ACTUAL TOTAL ADMITS	EXPECTED READMITS / ADMITS	EXPECTED READMITS	ACTUAL READMITS	ACTUAL READMITS / ACTUAL TOTAL ADMITS	ACTUAL READMITS / ACTUAL PRIMARY ADMITS
APR DRG 1	160	17.00%	27.20	27	16.88%	20.30%	150	17.00%	25.50	25	16.67%	20.00%
APR DRG 2	155	12.00%	18.60	12	7.74%	8.39%	110	12.00%	13.20	13	11.82%	13.40%
APR DRG 3	260	0.00%	0.00	0	0.00%	0.00%	220	0.00%	0.00	1	0.45%	0.46%
APR DRG 4	425	22.50%	95.63	100	23.53%	30.77%	375	22.50%	84.38	80	21.33%	27.12%
<b>TOTALS</b>	<b>1,000</b>	<b>14.14%</b>	<b>141.43</b>	<b>139</b>	<b>13.90%</b>	<b>16.14%</b>	<b>855</b>	<b>14.39%</b>	<b>123.08</b>	<b>119</b>	<b>13.92%</b>	<b>16.17%</b>