

**NOTICE OF WRITTEN COMMENT PERIOD**

Notice is hereby given that the public and interested parties are invited to submit written comments to the Commission on any or all of the following staff draft recommendations that will be presented at the Commission June 13, 2018 Public Meeting:

- 1) Uncompensated Care Policy for FY 2019

**WRITTEN COMMENTS ON THE AFOREMENTIONED STAFF DRAFT RECOMMENDATIONS ARE DUE IN THE COMMISSION'S OFFICES ON OR BEFORE JUNE 22, 2018 UNLESS OTHERWISE SPECIFIED IN THE RECOMMENDATION.**

State of Maryland  
Department of Health

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Chairman

Joseph Antos, PhD  
Vice-Chairman

Victoria W. Bayless

John M. Colmers

James N. Elliott, M.D.

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Executive Director

Katie Wunderlich, Director  
Engagement and Alignment

Allan Pack, Director  
Population Based  
Methodologies

Chris Peterson, Director  
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Information

Gerard J. Schmith, Director  
Revenue & Regulation  
Compliance

**Health Services Cost Review Commission**

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**552nd MEETING OF THE HEALTH SERVICES COST REVIEW COMMISSION  
June 13, 2018**

**EXECUTIVE SESSION**

**11:30 a.m.**

(The Commission will begin in public session at 11:30 a.m. for the purpose of, upon motion and approval, adjourning into closed session. The open session will resume at 1:00 p.m.)

1. Discussion on Planning for Model Progression – Authority General Provisions Article, §3-103 and §3-104
2. Update on Contract and Modeling of the All-payer Model vis-a-vis the All-Payer Model Contract – Administration of Model Moving into Phase II - Authority General Provisions Article, §3-103 and §3-104
3. Personnel Matters – Authority General Provisions Article, §3-305 (b) (1)

**PUBLIC SESSION**

**1:00 p.m.**

1. Review of the Minutes from the Public Meeting and Executive Session on May 9, 2018
2. New Model Monitoring
3. Docket Status – Cases Closed
4. Docket Status – Cases Open

Garrett Regional Medical Center – 2429R  
Calvert Health Medical Center – 2436R  
Johns Hopkins Health System – 2438A

University of Maryland Medical System – 2432R  
University of Maryland Medical System – 2437A

5. Policy Update Report and Discussion
  - a. Contract Update
  - b. TCOC All-Payer Model Implementation Planning
  - c. Care Redesign Bundled Payment Track
  - d. Update on ED Wait Times for QBR Policy
6. Confidential Data Request
7. Final Recommendation on the Update Factor for FY 2019
  - a. Resolution on Care Management Fees from the MD Primary Care Program Related to

### **Update Factor**

- 8. Final Recommendation on PAU Savings for RY 2019**
- 9. Final Recommendation on Continued Support of the Maryland Patient Safety Center for FY 2019**
- 10. Final Recommendation on Changes to the Relative Value Units Scale on Respiratory Therapy**
- 11. Final Recommendation for Nurse Support Program II**
- 12. Draft Recommendation on Uncompensated Care Policy for FY 2019**
- 13. Report on Ongoing Support of CRISP in FY 2019 for HIE Operations and Reporting Service Activities**
- 14. Hearing and Meeting Schedule**

### **Additional Reports to Review**

- Draft Report on Integrated Community Oncology Study**



# Monitoring Maryland Performance Financial Data

Year to Date through April 2018\*

Source: Hospital Monthly Volume and Revenue and Financial Statement Data  
Run: June 2018

\*Revenues used in the fiscal year growth calculations are not adjusted for the undercharge that occurred in Jul-Dec 2016.

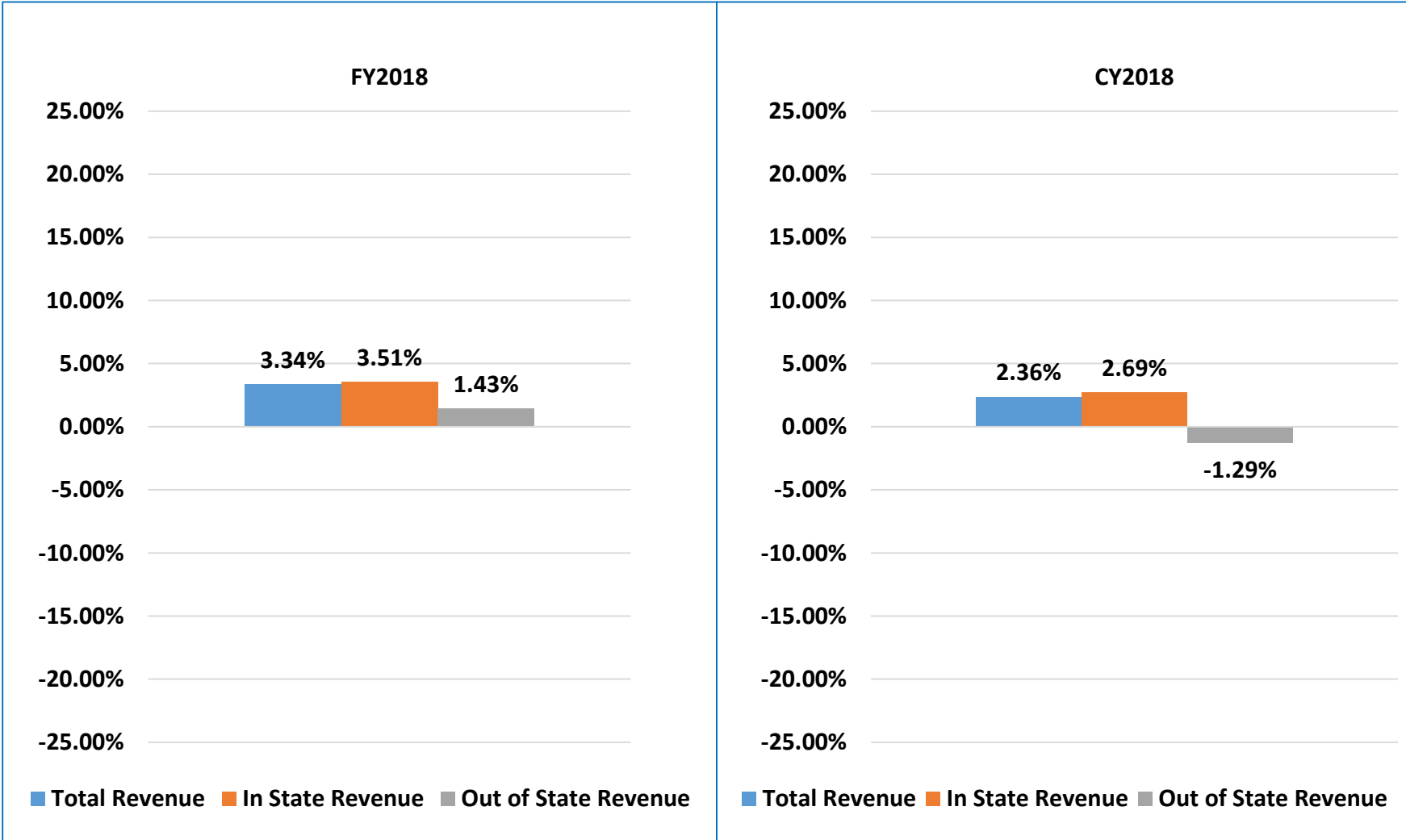


The per capita growth data pertaining to the Medicare FFS beneficiary counts beginning January 1, 2017 have been revised. CMS has changed the enrollment source for the Chronic Condition Data Warehouse (CCW) from the Enrollment Database (EDB) to the Common Medicare Environment (CME) database. Part A changed very slightly and Part B is more noticeably changed.

The Population Estimates from the Maryland Department of Planning have been revised in December, 2017. The new FY 18 Population growth number is 0.46%.

# Gross All Payer Hospital Revenue Growth

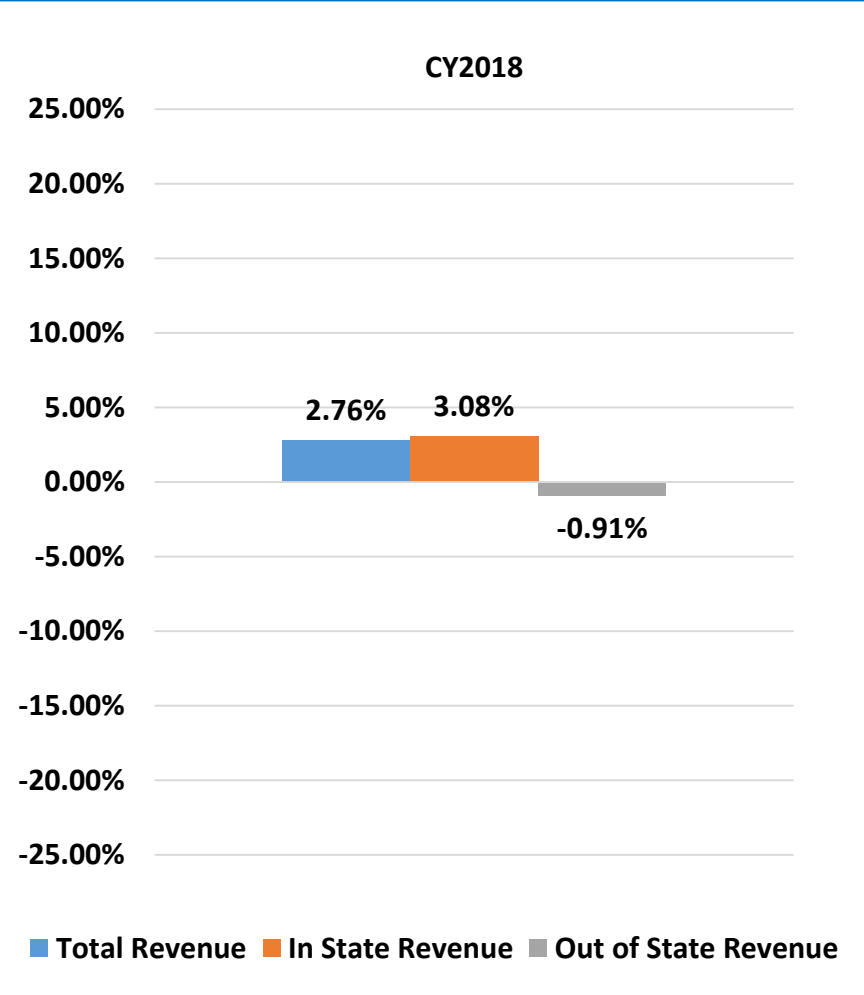
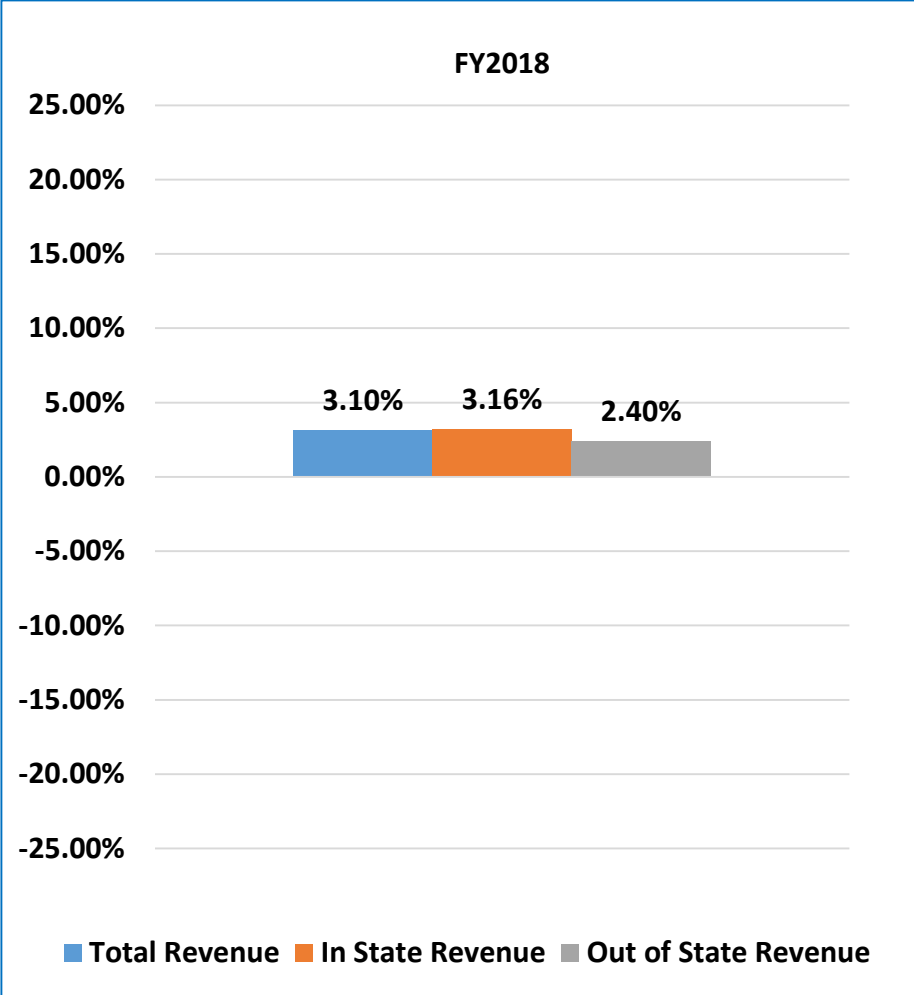
FY 2018 (July 17 – April 18 over July 16 – April 17) and CY 2018 (Jan-April 18 over Jan-April 17)



The State’s Fiscal Year begins July 1

# Gross Medicare Fee for Service Hospital Revenue

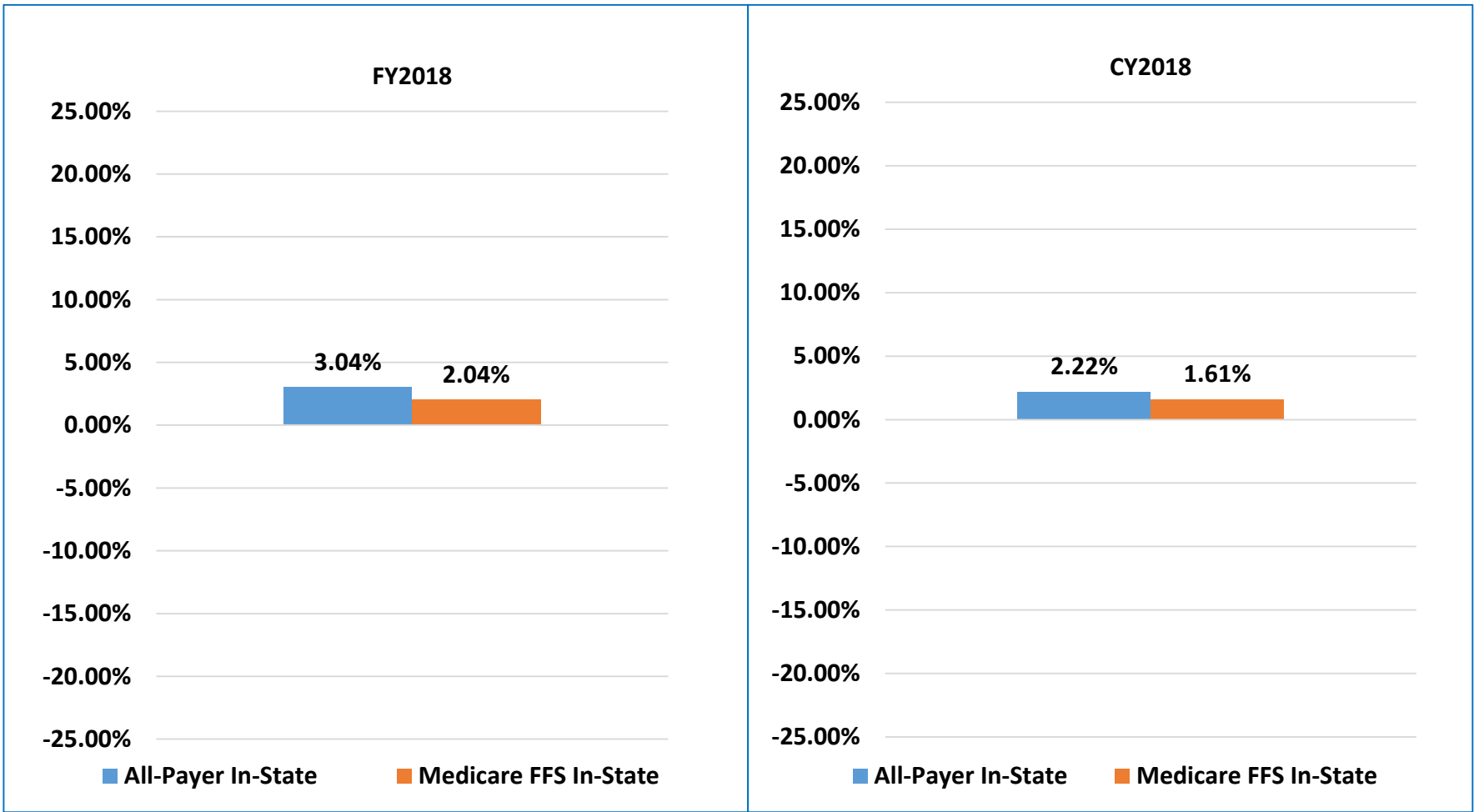
**Growth** FY 2018 (July 17 – April 18 over July 16 – April 17) and CY 2018 (Jan - April 18 over Jan – April 17)



The State's Fiscal Year begins July 1

# Hospital Revenue Per Capita Growth Rates

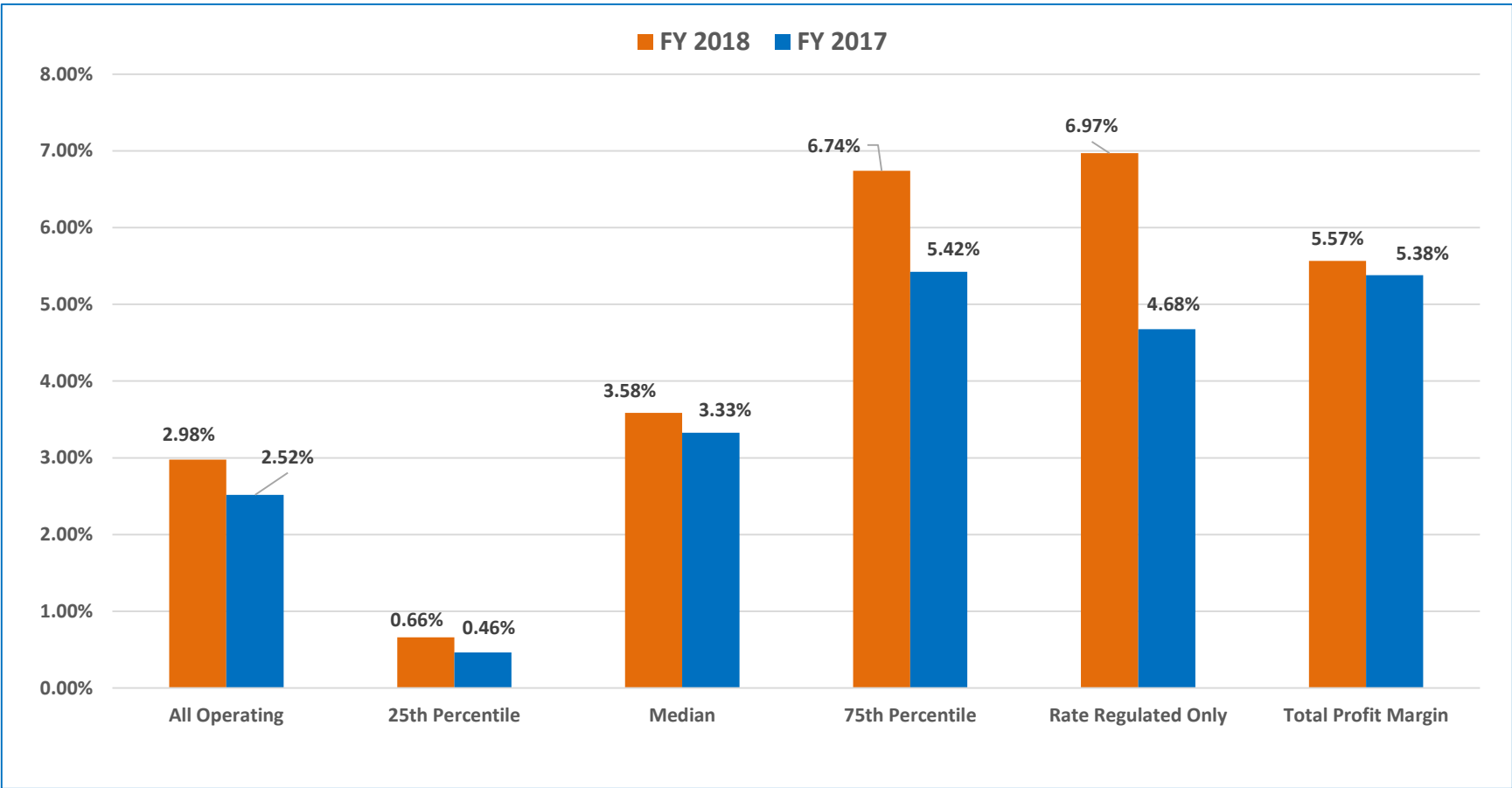
FY 2018 (Jul 17–April 18 over July 16–April 17) and CY 2018 (Jan- April 17 over Jan-April 18)



The State’s Fiscal Year begins July 1

# Hospital Operating and Total Profits

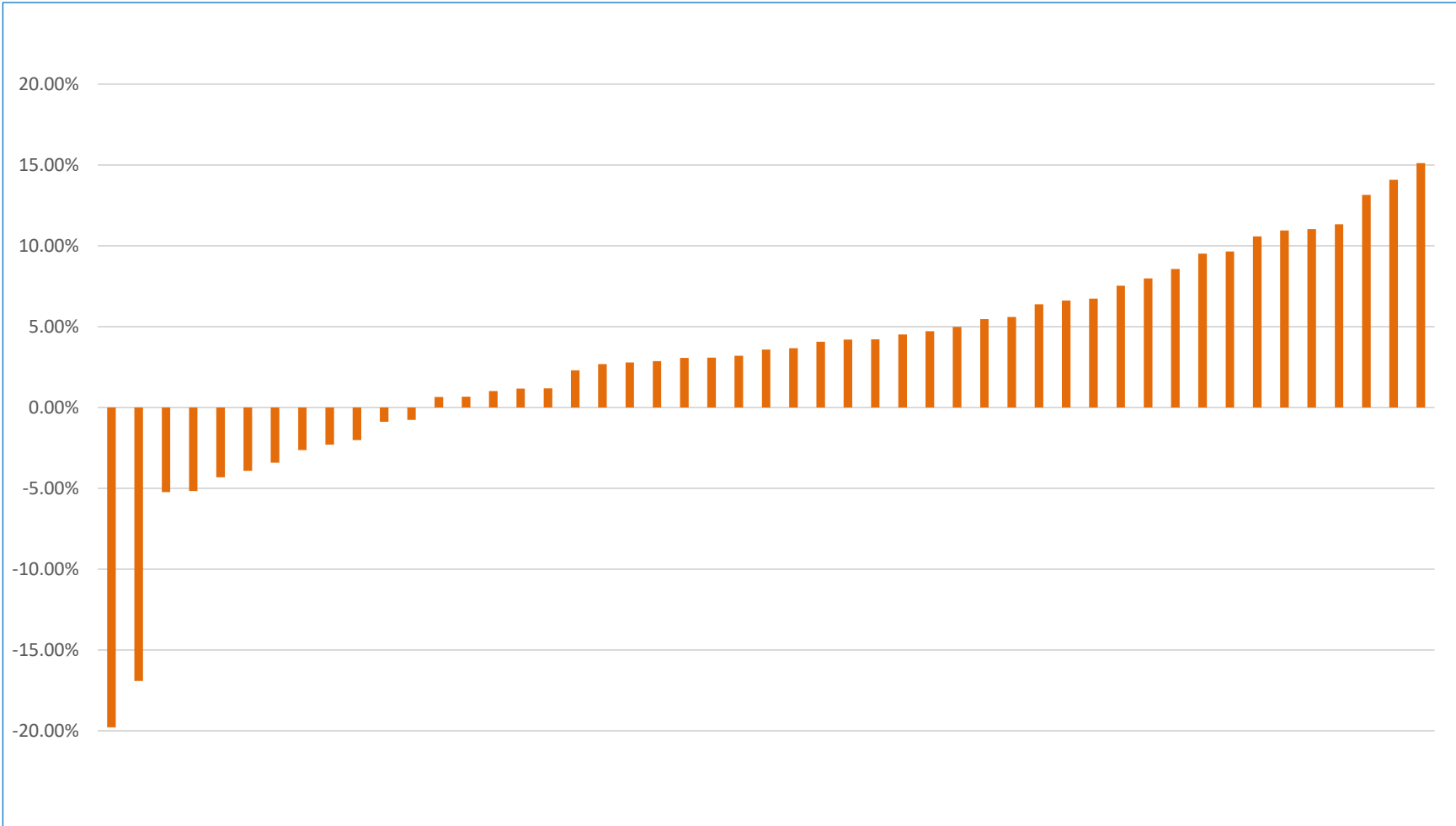
Fiscal Year 2018 (July 2017 – April 2018) Compared to Same Period in Fiscal Year 2017 (July 2016 – April 2017)



**FY 2018 unaudited hospital operating profits to date show an increase of 0.46 percentage points in total operating profits compared to the same period in FY 2017. Rate regulated profits for FY 2018 have increased by 2.29 percentage points compared to the same period in FY 2017.**

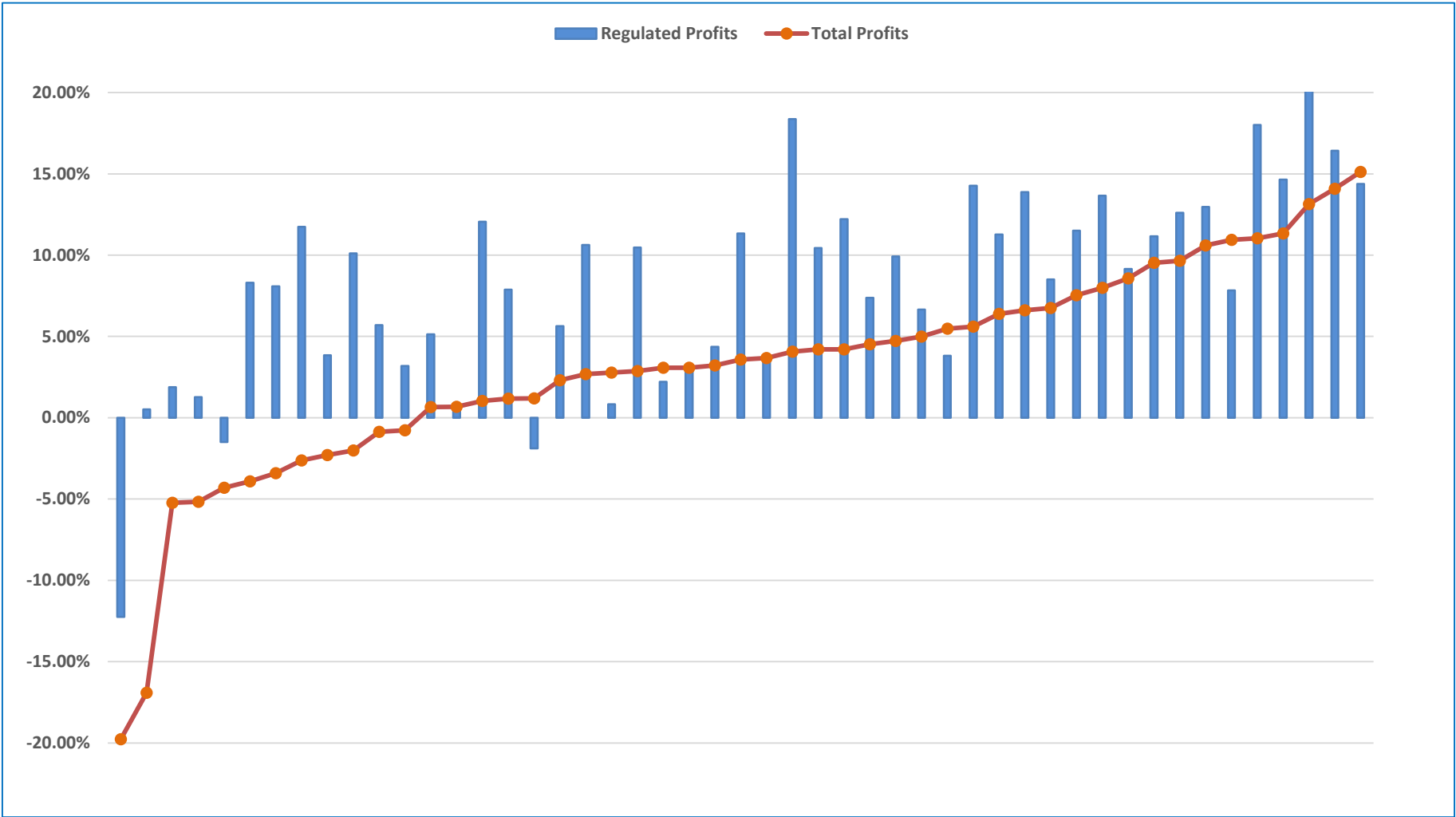
# Operating Profits by Hospital

Fiscal Year 2018 (July 2017 – April 2018)



# Regulated and Operating Profits by Hospital

Fiscal Year 2018 (July 2017 – April 2018)



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# Monitoring Maryland Performance Financial/Utilization Data

## Calendar Year to Date through April 2018

Source: Hospital Monthly Volume and Revenue Data

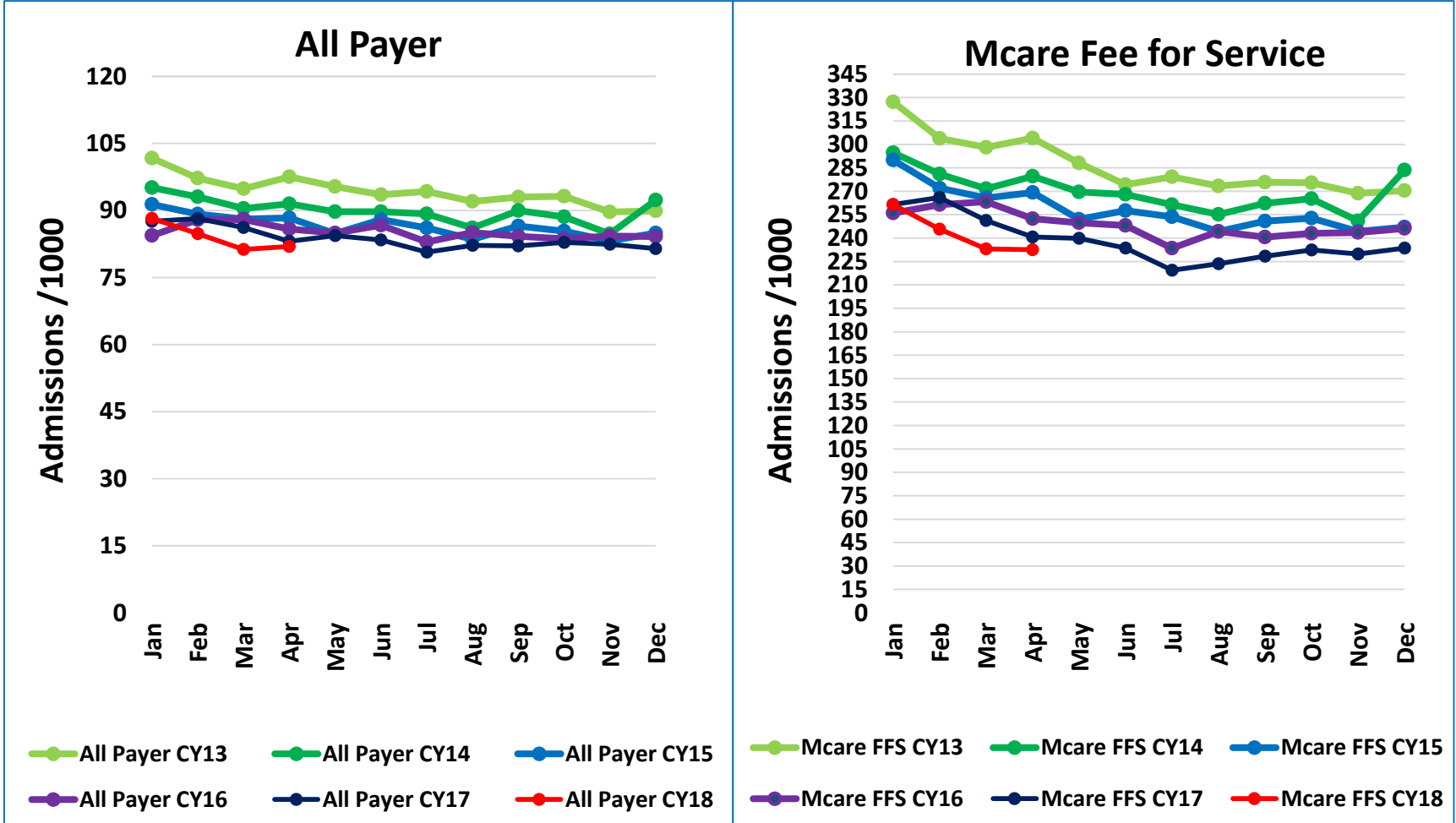
The per capita growth data pertaining to the Medicare FFS beneficiary counts beginning January 1, 2017 have been revised. CMS has changed the enrollment source for the Chronic Condition Data Warehouse (CCW) from the Enrollment Database (EDB) to the Common Medicare Environment (CME) database. Part A changed very slightly and Part B is more noticeably changed.

The Maryland Department of Planning released new population estimates in December 2017. The population numbers used to calculate the ADK, BDK and EDK have been revised accordingly.



# Annual Trends for ADK Annualized

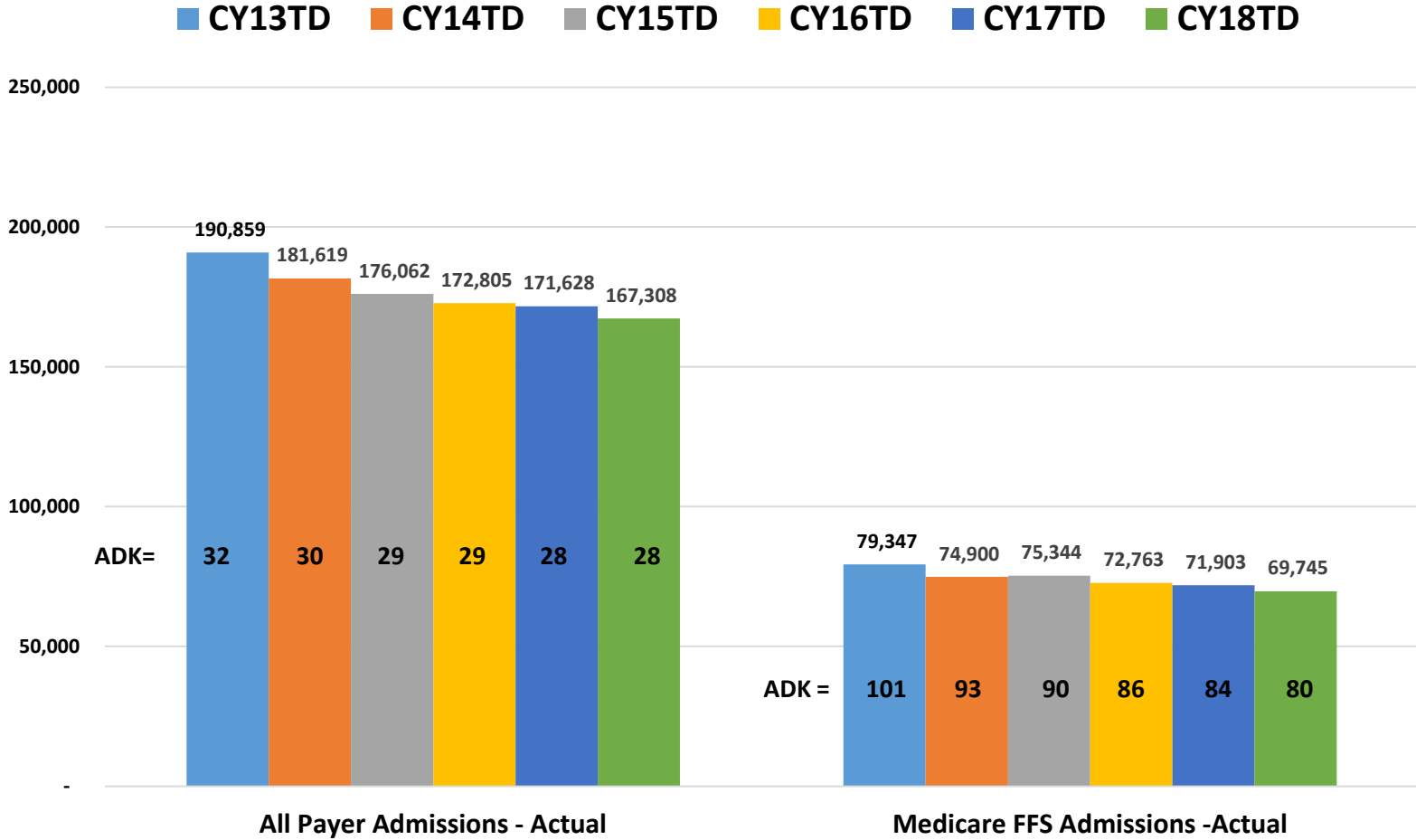
All Payer and Medicare Fee For Service (CY 2013 through CY 2018 April)



Note - The admissions do not include out of state migration or specialty psych and rehab hospitals.

# Actual Admissions by Calendar Year - April

(CY 2013 through CY 2018)



Note - The admissions do not include out of state migration or specialty psych and rehab hospitals.



# Change in Admissions by Calendar YTD April

(CY 2013 through CY 2018)

**Change in All Payer Admissions CYTD13 vs. CYTD14 = -4.84%**

**Change in All Payer Admissions CYTD14 vs. CYTD15 = -3.06%**

**Change in All Payer Admissions CYTD15 vs. CYTD16 = -1.85%**

**Change in All Payer Admissions CYTD16 vs. CYTD17 = -0.68%**

**Change in All Payer Admissions CYTD17 vs. CYTD18 = -2.52%**

**Change in ADK CYTD 13 vs. CYTD 14 = -5.44%**

**Change in ADK CYTD 14 vs. CYTD 15 = -3.55%**

**Change in ADK CYTD 15 vs. CYTD 16 = -2.24%**

**Change in ADK CYTD 16 vs. CYTD 17 = -1.13%**

**Change in ADK CYTD 17 vs. CYTD 18 = -2.52%**

**Change in Medicare FFS Admissions CYTD13 vs. CYTD14 = -5.60%**

**Change in Medicare FFS Admissions CYTD14 vs. CYTD15 = 0.59%**

**Change in Medicare FFS Admissions CYTD15 vs. CYTD16 = -3.43%**

**Change in Medicare FFS Admissions CYTD16 vs. CYTD17 = -1.18%**

**Change in Medicare FFS Admissions CYTD17 vs. CYTD18 = -3.00%**

**Change in Medicare FFS ADK CYTD 13 vs. CYTD 14 = -8.68%**

**Change in Medicare FFS ADK CYTD 14 vs. CYTD 15 = -2.62%**

**Change in Medicare FFS ADK CYTD 15 vs. CYTD 16 = -5.04%**

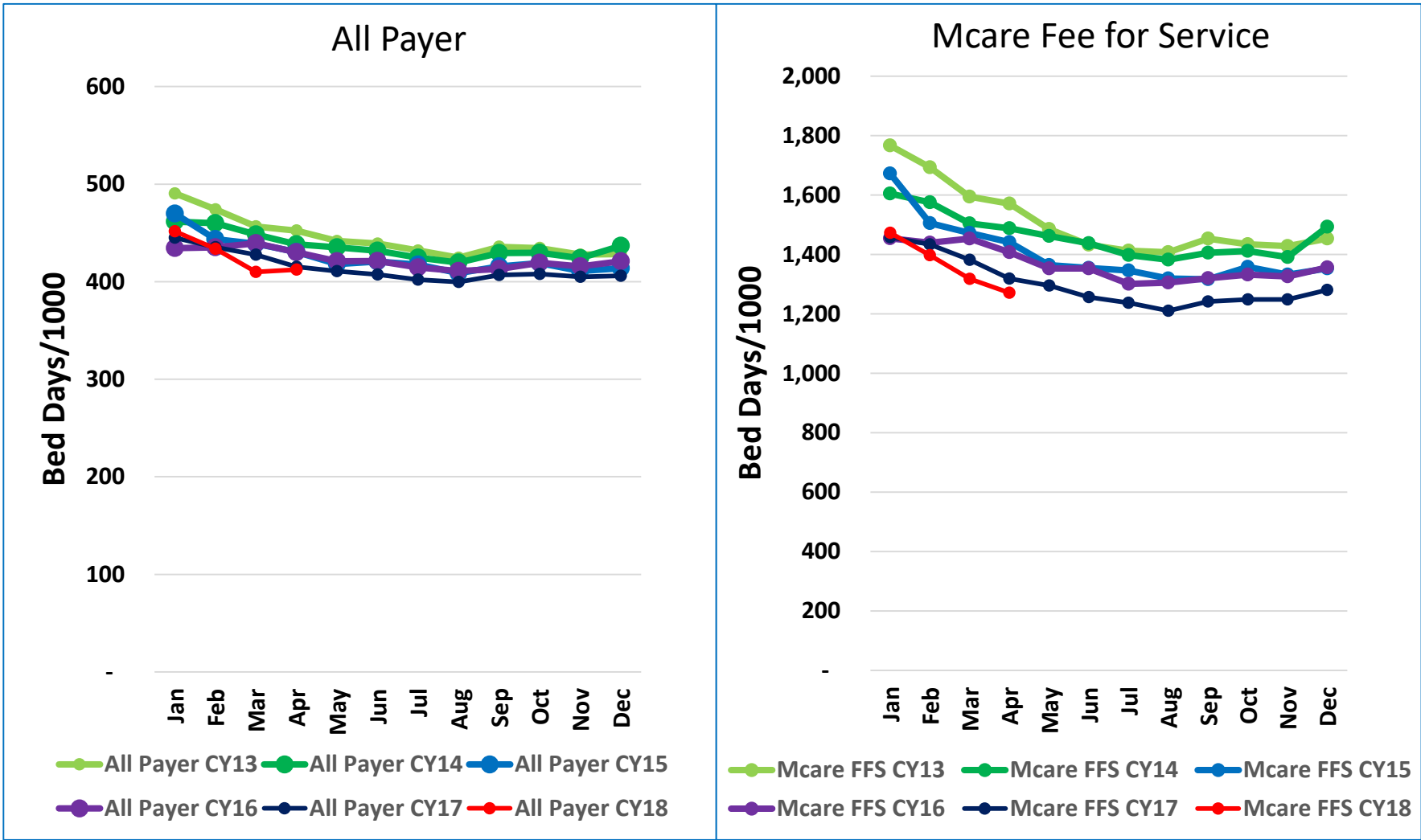
**Change in Medicare FFS ADK CYTD 16 vs. CYTD 17 = -2.23%**

**Change in Medicare FFS ADK CYTD 17 vs. CYTD 18 = -4.51%**



# Annual Trends for BDK Annualized

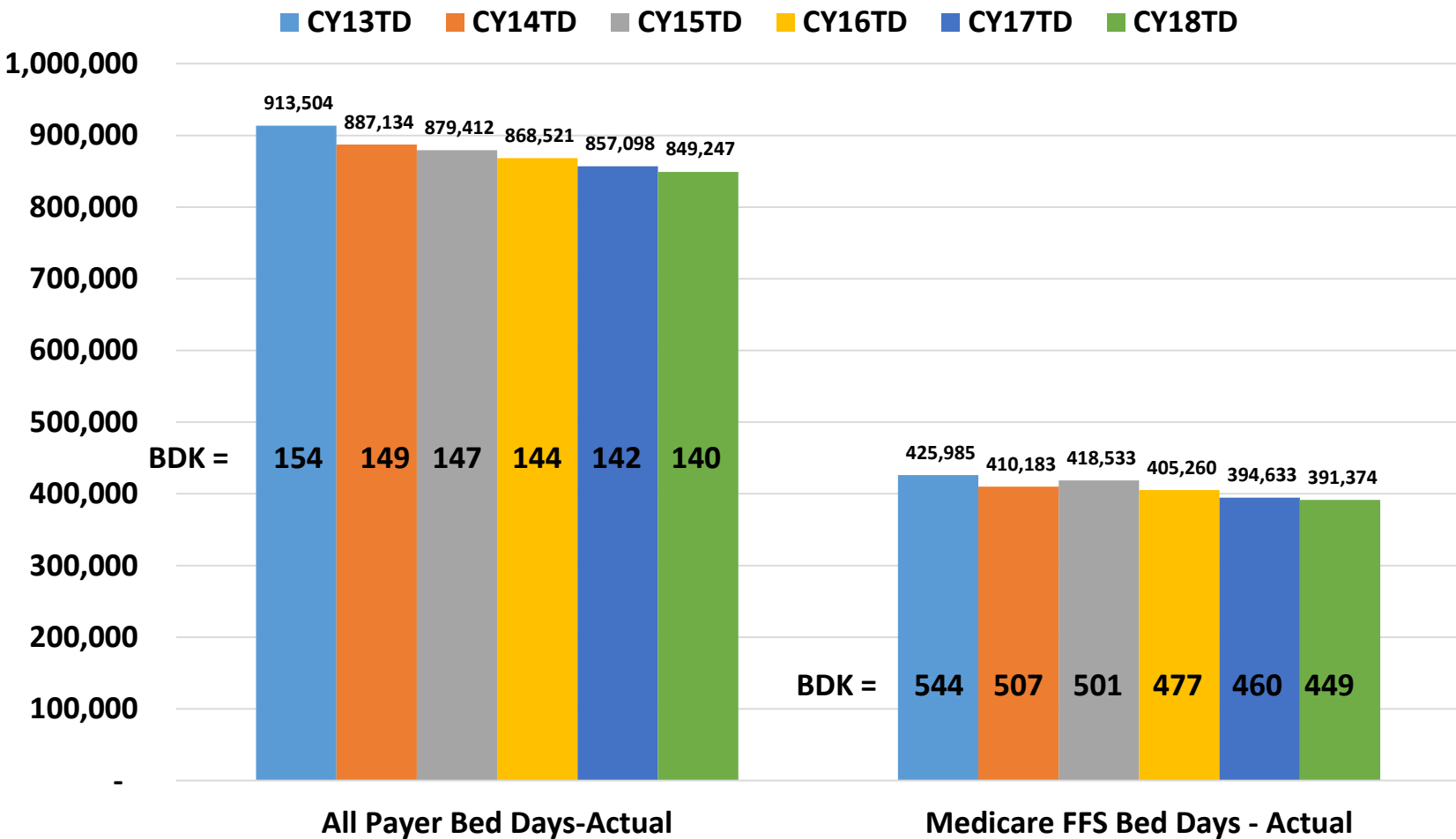
All Payer and Medicare Fee For Service (CY 2013 through CY 2018 April)



Note - The bed days do not include out of state migration or specialty psych and rehab hospitals.

# Actual Bed Days by Calendar YTD April

(CY 2013 through CY 2018)



Note - The bed days do not include out of state migration or specialty psych and rehab hospitals.

# Change in Bed Days by Calendar YTD April

(CY 2013 through CY 2018)

**Change in All Payer Bed Days CYTD13 vs. CYTD14 = -2.89%**

**Change in All Payer Bed Days CYTD14 vs. CYTD15 = -0.87%**

**Change in All Payer Bed Days CYTD15 vs. CYTD16 = -1.24%**

**Change in All Payer Bed Days CYTD16 vs. CYTD17 = -1.32%**

**Change in All Payer Bed Days CYTD17 vs. CYTD18 = -0.92%**

**Change in BDK CYTD 13 vs. CYTD 14 = -3.50%**

**Change in BDK CYTD 14 vs. CYTD 15 = -1.37%**

**Change in BDK CYTD 15 vs. CYTD 16 = -1.63%**

**Change in BDK CYTD 16 vs. CYTD 17 = -1.76%**

**Change in BDK CYTD 17 vs. CYTD 18 = -0.92%**

**Change in Medicare FFS Bed Days CYTD13 vs. CYTD14 = -3.71%**

**Change in Medicare FFS Bed Days CYTD14 vs. CYTD15 = 2.04%**

**Change in Medicare FFS Bed Days CYTD15 vs. CYTD16 = -3.17%**

**Change in Medicare FFS Bed Days CYTD16 vs. CYTD17 = -2.62%**

**Change in Medicare FFS Bed Days CYTD17 vs. CYTD18 = -0.83%**

**Change in Medicare FFS BDK CYTD 13 vs. CYTD 14 = -6.85%**

**Change in Medicare FFS BDK CYTD 14 vs. CYTD 15 = -1.22%**

**Change in Medicare FFS BDK CYTD 15 vs. CYTD 16 = -4.80%**

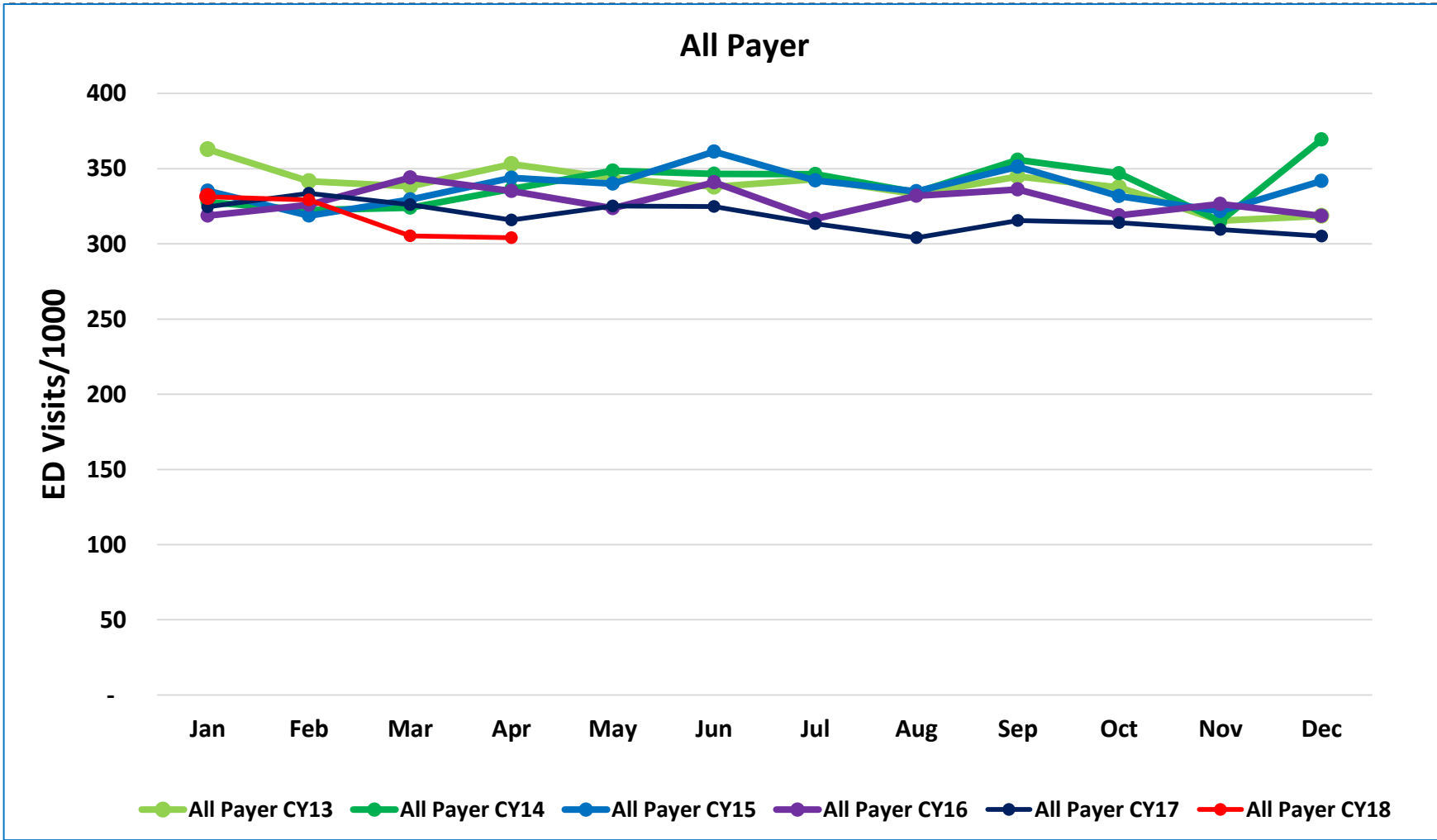
**Change in Medicare FFS BDK CYTD 16 vs. CYTD 17 = -3.66%**

**Change in Medicare FFS BDK CYTD 17 vs. CYTD 18 = -2.37%**



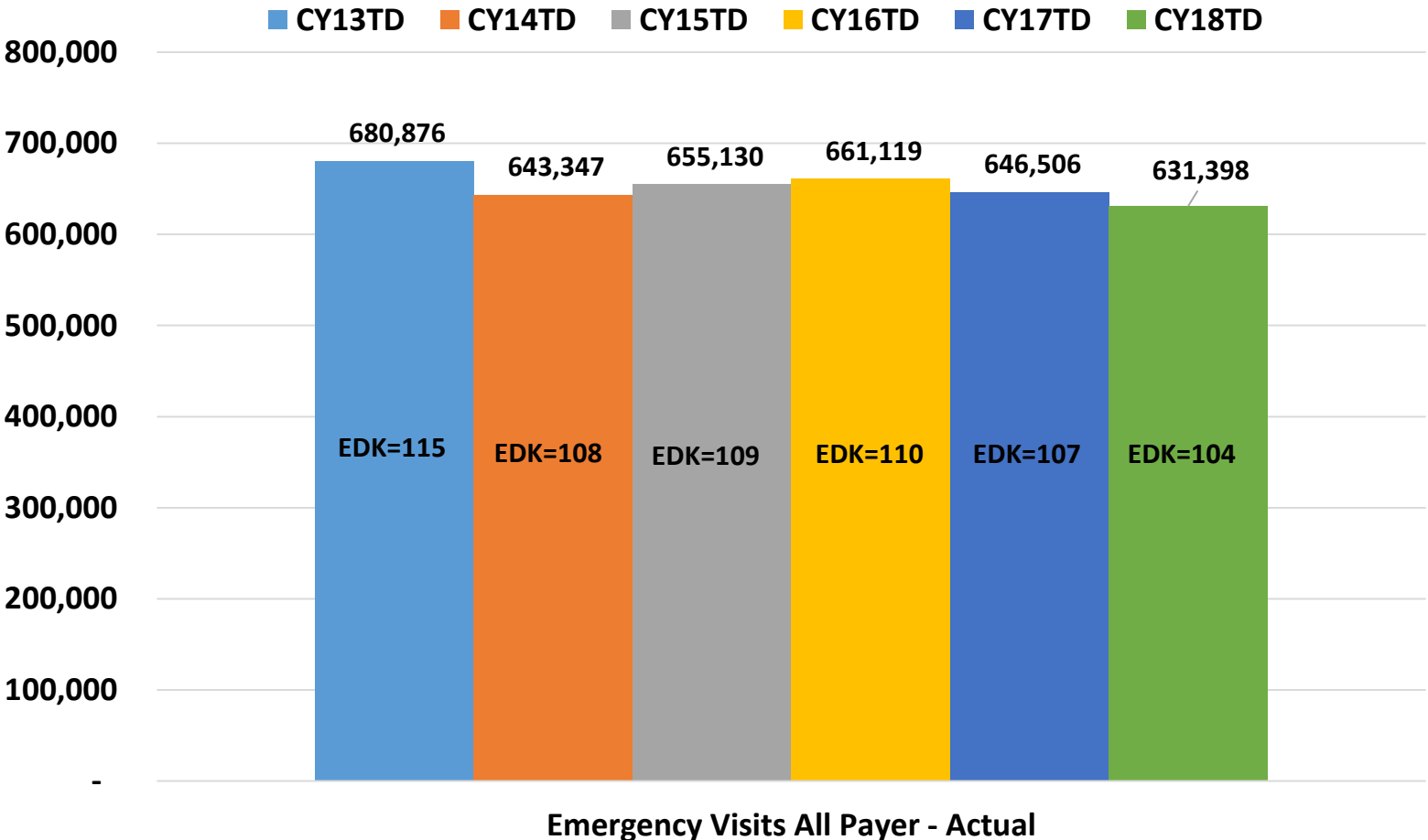
# Annual Trends for EDK Annualized

All Payer (CY 2013 through CY2018 April)



Note - The ED Visits do not include out of state migration or specialty psych and rehab hospitals.

# Actual Emergency Department Visits by Calendar YTD April (CY 2013 through CY 2018)



Note - The ED Visits do not include out of state migration or specialty psych and rehab hospitals.



# Change in ED Visits by Calendar YTD April

(CY 2013 through CY 2018)

**Change in ED Visits CYTD 13 vs. CYTD 14 = -5.51%**

**Change in ED Visits CYTD 14 vs. CYTD 15 = 1.83%**

**Change in ED Visits CYTD 15 vs. CYTD 16 = 0.91%**

**Change in ED Visits CYTD 16 vs. CYTD 17 = -2.21%**

**Change in ED Visits CYTD 17 vs. CYTD 18 = -2.34%**

**Change in EDK CYTD 13 vs. CYTD 14 = -6.11%**

**Change in EDK CYTD 14 vs. CYTD 15 = 1.32%**

**Change in EDK CYTD 15 vs. CYTD 16 = 0.51%**

**Change in EDK CYTD 16 vs. CYTD 17 = -2.65%**

**Change in EDK CYTD 17 vs. CYTD 18 = -2.34%**



# Purpose of Monitoring Maryland Performance

Evaluate Maryland's performance against All-Payer Model requirements:

**All-Payer total hospital per capita revenue growth ceiling** for Maryland residents tied to long term state economic growth (GSP) per capita

- 3.58% annual growth rate
- **Medicare payment savings** for Maryland beneficiaries compared to dynamic national trend. Minimum of \$330 million in savings over 5 years
- **Patient and population centered-measures** and targets to promote population health improvement
  - Medicare readmission reductions to national average
  - 30% reduction in preventable conditions under Maryland's Hospital Acquired Condition program (MHAC) over a 5 year period
  - Many other quality improvement targets

# Data Caveats

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- Data revisions are expected.
- For financial data if residency is unknown, hospitals report this as a Maryland resident. As more data becomes available, there may be shifts from Maryland to out-of-state.
- Many hospitals are converting revenue systems along with implementation of Electronic Health Records. This may cause some instability in the accuracy of reported data. As a result, HSCRC staff will monitor total revenue as well as the split of in state and out of state revenues.
- All-payer per capita calculations for Calendar Year 2015 CY 2016 and FY 2017 rely on Maryland Department of Planning projections of population growth of .36% for FY18 and FY17, .52% for FY 16, and .52% for CY 15. Medicare per capita calculations use actual trends in Maryland Medicare beneficiary counts as reported monthly to the HSCRC by CMMI.



# Monitoring Maryland Performance Quality Data

June 2018 Commission Meeting Update



# Quality Data Reporting Schedule

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## ▶ Readmissions –

- ▶ Updates on CMS Medicare Readmission Waiver Test, and RY 2020 RRIP Readmission Trends (with 2018 data) are expected to resume in Summer 2018.

## ▶ MHAC -

- ▶ Staff will provide an update to PPC rates on a quarterly basis, with final (closed) data; last provided through CY 2017.
- ▶ Final Jan-Mar 2018 data are expected to be available in Jul 2018.

## ▶ PAU -

- ▶ CY 2017 PAU data trends may be reviewed in the RY 2019 PAU Savings Policy; CY 2018 PAU data trends are unavailable pending additional data validation.



## Cases Closed

The closed cases from last month are listed in the agenda

H.S.C.R.C's CURRENT LEGAL DOCKET STATUS (OPEN)

AS OF JUNE 5, 2018

A: PENDING LEGAL ACTION : NONE  
 B: AWAITING FURTHER COMMISSION ACTION: NONE  
 C: CURRENT CASES:

Docket Number	Hospital Name	Date Docketed	Decision Required by:	Rate Order Must be Issued by:	Purpose	Analyst's Initials	File Status
2429R	Garrett Regional Medical Center	2/1/2018	8/2/2018	8/2/2018	Full Rate	GS	OPEN
2432R	University of Maryland Medical System	3/19/2018	6/13/2018	8/16/2018	Cancer Clinics	GS	OPEN
2436R	Calvert Health Medical Center	4/27/2018	6/13/2018	9/24/2018	PED/MSG	CK	OPEN
2437A	University of Maryland Medical System	5/23/2018	N/A	N/A	ARM	DNP	OPEN
2438A	Johns Hopkins Health System	5/25/2018	N/A	N/A	ARM	DNP	OPEN

PROCEEDINGS REQUIRING COMMISSION ACTION - NOT ON OPEN DOCKET

NONE

IN RE: THE FULL RATE

\* BEFORE THE HEALTH SERVICES

APPLICATION OF

\* COST REVIEW COMMISSION

GARRETT REGIONAL MEDICAL CENTER,

\* DOCKET: 2018

OAKLAND, MARYLAND.

\* FOLIO: 2239

\* PROCEEDING: 2429R

\* \* \* \* \*

STAFF RECOMMENDATION

June 13, 2018



## Overview

Garrett Regional Medical Center (“GRMC,” or “the Hospital”) submitted a full rate application on January 16, 2018, requesting an increase to its permanent Global Budget Revenue (GBR) of \$5,977,754 effective February 15, 2018. Following the submission of additional required information not included with its original submission, the HSCRC staff accepted GRMC’s full rate application and considered it filed on February 1, 2018. The requested \$5,977,754 increase represents an 11.0 percent increase over GRMC’s currently approved GBR that was effective for the one-year period from July 1, 2017 through June 30, 2018. GRMC also requested that the budgeted GBR volumes be updated to the actual volumes for the year that ended June 30, 2017.

GRMC’s request focused on the need to increase its salaries due to competition from other hospitals in Maryland, West Virginia, and Pennsylvania. GRMC’s request for salary increases and additional funds for agency nurses totaled \$2,152,528 or 4.0 percent of GRMC’s current approved revenue. GRMC also requested \$3,825,226, or 7.0 percent of the current approved revenue, to fund a variety of population infrastructure investments, including approximately \$1.1 million of losses on physician practices.

GRMC is the first hospital to file a full rate application since the moratorium on these applications was lifted on November 1, 2017.

## Background

### Full Rate Applications

The full rate application moratorium had been in place to allow the Commission to change its process for reviewing these applications. The revised process is intended to encompass new measures of efficiency based on the move from volume-based payments under the charge-per-case system employed prior to 2014 (with notable exceptions for rural hospitals with global revenue caps) to a per capita system with value based requirements. The Commission adopted updated regulations for full rate applications to incorporate new requirements for efficiency. Under the updated requirements, the Commission will evaluate efficiency in the context of per capita costs. The evaluation contained in this recommendation addresses utilization efficiency, price efficiency, and quality performance.

The HSCRC staff has made considerable progress in developing an Interhospital Cost Comparison that addresses price efficiency. However, there is ongoing work to develop improved measures for outpatient services, particularly for those services that are cycle-billed. Additionally, the HSCRC staff needs to incorporate cost levels from community settings for those services that could be performed more cost effectively in those settings. Such services include clinics, radiology and lab procedures that are not part of a visit, and physical therapy, among others. Staff’s work on these outpatient measures is incomplete, and the approach used for these services in this staff recommendation will be replaced as the development of these measures continues.

Similar to the evaluation of Anne Arundel Medical Center in 2017, the HSCRC staff has evaluated the performance of GRMC by reviewing total cost of care performance for Medicare, as well as measures of avoidable utilization and quality using the latest data available for GRMC.

## **Background on GRMC**

GRMC is a 27 licensed bed hospital located in Garrett County, Maryland. Its total approved revenue cap for 2018 is \$56,937,603. GRMC has operated successfully under a global revenue cap for decades. As a small hospital, GRMC found that the revenue stability offered by the global revenue cap helped it develop predictable and sustainable budgets. GRMC combined the global revenue cap with a strong primary care program to provide accessible health care services to its service area residents.

GRMC and HSCRC staff have worked together over the last several years to accommodate financial needs at GRMC that were not addressed under the normal update factor that applied to all hospitals in Maryland. Over the last three years, GRMC has received additional funding for capital from a previously approved rate application (2.8 percent) as well as funds for market shifts for oncology (7.2 percent), and orthopedic and neonatal services (1.2 percent). The Hospital requested, and received, funding to bring enhanced services to the GRMC campus, which were being provided by other hospitals in Maryland and West Virginia. In each case, GRMC indicated that it expected that total cost of care would decrease by providing these services at GRMC. The oncology services were funded based on estimated and actual drug costs, plus the estimated costs of the services. The orthopedic and neonatal services were funded at an estimated 50 percent variable rate of related charges.

From 2012 through 2017, GRMC has averaged a profit margin of 9.4 percent on regulated services and 6.3 percent on all services.

As part of its rationale for filing its full rate application, GRMC described the difficulties it is encountering hiring and retaining Certified Registered Nurse Anesthetists and anesthesiologists. According to GRMC's audited financial statements, GRMC had minimal subsidies or net losses for nurse anesthetists and anesthesiologists in FY 2014, which increased to a subsidy or net loss of over \$850,000 in FY 2016 and FY 2017. (A subsidy or net loss represents the amount due under the financial arrangement after taking into account any collections from patients.) In total, GRMC went from generating a profit of \$267,000 on physician practices in FY 2013 to a loss of \$2,278,000 in FY 2017. In addition to the FY 2017 losses, GRMC is requesting funding for another \$1.1 million in losses on physician practices as part of its request for additional infrastructure funding. The requested physician funding is for outpatient psychiatry and primary care, aimed to reduce inpatient utilization of psychiatric services through better community care and to create additional primary resources in the community for patients requiring intensive care coordination efforts who are not currently being treated by an existing practice.

## **Staff Analyses**

The HSCRC staff has reviewed costs, financial trends, system financial statements, unregulated losses, volume trends, quality performance, and Medicare per capita trends in the primary service area, among

others. Recently, the HSCRC staff reviewed the results of the Interhospital Cost Comparisons (ICC). Summaries of several of these analyses follow.

## **“Price” Efficiency**

GRMC is a relatively efficient hospital when compared to other Maryland hospitals in its cost per case. During the past year of discussions and evaluations, staff compared GRMC’s charge per equivalent case mix adjusted discharge (“ECMAD”) to the State average and peer hospitals. These comparisons showed that GRMC’s charge levels were well below the State and peer averages. The gap between GRMC’s charges and the State and peer averages continues to increase as volume increases at GRMC slowed its rate growth, while simultaneous volume decreases in the State increased rate growth averages. While this easing of charge per case appears favorable, GRMC’s volume growth has the potential to increase per capita costs and undermine the goals of the All-Payer Model. Staff will address this concern, as it did with the Anne Arundel review, in the following sub-section, entitled Utilization Efficiency.

As discussed below, staff has completed an Inter-hospital Cost Comparison and GRMC appears relatively efficient in these cost-per-case comparisons.

### ***Interhospital Cost Comparison***

The HSCRC staff has been working on the Interhospital Cost Comparison (ICC) tool, which is used to evaluate cost-per-case efficiency in a full rate review. The ICC is still undergoing technical review and the results will change. In the ICC, each hospital’s costs per case are compared to a peer group adjusted cost per case. At this time, the HSCRC staff estimates that 89.1 percent of GRMC’s revenue would receive a rate increase from a full rate review if cost per case were the only criterion for review, and that the rate increase could reach up to 11 percent.<sup>1</sup> For revenue included in the ICC tool, GRMC shows relative efficiency compared to the peer group, performing more favorably than all other hospitals in the State.

Of the excluded revenue (10.9 percent; \$5.9 million), the two largest components are clinic services (32.2 percent of excluded revenue; \$1.9 million) and outpatient drug charges (38.5 percent of excluded revenue; \$2.3 million), which are predominantly oncology drug charges. HSCRC staff has conducted separate analyses on clinic services and drug charges, which are described below. All other excluded revenue (29.3 percent of excluded revenue; \$1.7 million) is assumed to have the same efficiency as revenue assessed by the ICC tool.

To analyze drug charges, an interim modification to the ICC has been introduced because not all revenue is assessed by the ICC tool. As drug costs have risen, drug overhead allocations distort cost comparisons under the ICC through under-allocating overhead to other services. The interim modification leaves the drug overhead in the ICC, and assesses the drug costs against published average purchase prices (Average Sales Price or 340B prices for eligible hospitals),

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<sup>1</sup> The ICC does not at this time assess the efficiency of all hospital revenue. Revenue is excluded from the ICC for the following reasons: various charges (outpatient drugs, clinic services) are not reliably case mix adjusted using the current ECMAD methodology; charges associated with chronic care beds are unique to four hospitals and, therefore, are not susceptible to statewide analyses of efficiency (work to obtain national benchmarks for long term care acute hospital charges is ongoing); and charges associated with “categorical exclusions,” e.g., organ transplants, research cases at academic medical centers, are not susceptible to statewide analyses of efficiency (work to obtain national benchmarks for such hospital charges is ongoing).

Staff analysis of GRMC’s drug charges less drug overhead indicates that GRMC has revenue in line with drug costs. The variance between the two data sets was \$63,000, suggesting that drug revenue excluded from the ICC tool should receive no qualification, i.e., it should not be increased or decreased.

Staff performed a similar analysis for clinic charges excluded from the ICC tool; however, in this case charges were not altered to account for variable overhead and charges per case and were compared to peer group averages as opposed to external pricing standards. Because clinic charges cover a wide array of services that differ in resource intensity, analyses were done on different sets of current procedural terminology codes (CPT codes). The first analysis of clinic charges was performed on office clinic charges, which represent 34 percent of clinic charges statewide (17 percent of GRMC clinic charges).<sup>2</sup> The results of this analysis indicate that GRMC’s office clinic charges are 14.77 percent below the peer group average,<sup>3</sup> which is slightly greater than the current ICC tool standing (11.13 percent below the peer group cost standard). However, it should be noted that GRMC’s charges are only 7.7 percent below the peer group average of office clinic charges when charges for all peer group hospitals are reduced by the net strip (profit, labor market, indirect medical education, etc.) in the ICC tool. GRMC’s relative ranking deteriorates because it has the third lowest net strip in its peer group. HSCRC was unable to compare the remainder of the clinic costs at this time. Lacking complete analysis, HSCRC staff assumes that clinic charges are equally efficient with other charges evaluated under the ICC.

The table below describes the various results of the current ICC methodology. These results do not account for hospital quality performance or total cost of care.

**Table 1. Summary of Components of ICC Recommended Revenue**

ICC Methodology	Revenue Assessed	Rate Change	ICC Recommend Revenue
ICC Pricing Tool	\$49,127,018	11.13%	\$54,593,772
Drug Cost Analysis	\$1,513,200	0%	\$1,513,200
Clinic Charges	\$1,900,062	11.13%	\$2,111,497
Other Revenue not in ICC	\$1,726,712	11.13%	\$1,918,857
Total	\$54,266,992	10.82%	\$60,137,326

<sup>2</sup> Statewide clinic charges in the RY 2017 case-mix data are \$628,906,677, and the single largest category is “CPT code unknown,” constituting \$141,833,305 or 22.5 percent, which means close to a quarter of all clinic charges cannot be evaluated at the CPT code level. GRMC had approximately 44 percent of clinic revenue with a CPT code of “unknown.”

<sup>3</sup> Due to significant data anomalies, McCready Memorial Hospital was removed from the peer group standard.

## Utilization Efficiency

Staff evaluated how the volume increases at GRMC affected the per capita goals of the All-Payer Model. At present, staff has developed data on total cost of care per capita for Medicare. If volumes move from higher cost hospitals to lower cost hospitals, per capita costs could decrease. However, to the extent that volumes simply increase, this could result in unfavorable performance under the Model. As discussed below, staff has determined that the volume increases at GRMC did not produce net cost savings in Medicare total cost of care in GRMC's primary service area. Management believes that it will take time for some of the new investments to mature and that these investments will produce lower costs over time.

Staff also evaluated the levels of potentially avoidable utilization at GRMC compared to levels of potentially avoidable utilization at all other Maryland hospitals, and GRMC's experience in reducing these volumes. As discussed below, GRMC has moderate rates of potentially avoidable utilization and low readmission rates. GRMC has seen an increase in potentially avoidable utilization as a percentage of eligible revenue from calendar year 2013 to 2016 due to a large increase from CY 2013 to CY 2014, but potentially avoidable utilization has declined since.

As part of its full rate application, GRMC submitted a two-page Care Redesign document summarizing GRMC's previous initiatives to reduce avoidable utilization and planned efforts to reduce avoidable utilization in the future. GRMC's Care Redesign program included starting a Well Patient Program to identify patients with a risk of readmission or high utilization of hospital services. GRMC's future Care Redesign initiatives include hiring two additional nurse navigators and a community health worker to be stationed in the Emergency Room to assist with follow up coordination.

### *Total Cost of Care Growth*

HSCRC staff has made progress in evaluating the Total Cost of Care (TCOC) data for Medicare beneficiaries at a geographical level and for attributed beneficiaries. For this analysis, staff focused on the relative growth in Medicare's TCOC per beneficiary in GRMC's primary service area relative to the Medicare TCOC growth per beneficiary statewide. The HSCRC staff believes that it is important to evaluate how the volume growth at GRMC, which makes it appear more efficient on a cost per case basis, is affecting the growth in total cost of care per capita. On the one hand, if GRMC's charge per case levels are lower than competitor average charge levels and GRMC is growing market share, this may improve the efficiency of the services provided. On the other hand, if the volume growth is not due to shifts in market share but simply growth in the volume of services provided, there may be a lower cost per case, but the volume growth could contribute to a higher growth in cost per capita, undermining the All-Payer Model.

HSCRC and the State have made progress in measuring Medicare total cost of care growth. As part of the work of the Total Cost of Care work group, HSCRC prepared an analysis of Medicare Total Cost of Care per beneficiary growth for the primary service area of each hospital in Maryland for the period beginning with Calendar Year 2013 and ending with Calendar Year 2016. For 2016 over 2013, there was a 7.4 percent increase in per beneficiary growth for GRMC's primary service area compared to a 1.3 percent increase statewide.

In its full rate application GRMC provided Medicare total cost of care per capita data for Garret County, two groups of selected small Maryland hospitals, the overall average for the United States, and two groups of rural hospital averages. According to the table, GRMC's TCOC was lower than any of the other

hospital comparison groups selected. However, an HSCRC staff analysis of all counties nationally with similar levels of total population showed that the Medicare total cost of care for Garrett County was higher than the average of the comparison group.

Table 2. below summarizes the results of the HSCRC staff analysis of total cost of care, using 2015 Medicare payments. The analysis includes all counties nationally with a population between 25,000 and 35,000 people, which included 304 counties nationally.

**Table 2. HSCRC Analysis of Garrett County Medicare Total Cost of Care (TCOC) Per Capita versus Other Rural Counties  
Calendar Year 2015**

County/Group	Medicare TCOC Per Capita	Medicare Hospital Cost Per Capita	Medicare Other Cost Per Capita	TCOC Percent Variance From Garrett County
Garrett	\$9,385	\$5,553	\$3,832	
Mineral (West Virginia)	\$10,133	\$5,847	\$4,286	8.0%
Preston (West Virginia)	\$9,097	\$5,233	\$3,864	(3.1%)
Total 304 Counties:				
25 <sup>th</sup> Percentile	\$8,385	\$4,049	\$4,336	(10.7%)
Median	\$8,958	\$4,433	\$4,525	(4.5%)
Mean	\$9,024	\$4,476	\$4,548	(3.8%)

Sources: CY 2015 Medicare Total Cost of Care Geographic Variation File prepared by CMS and 2016-17 Area Health Resource File.

According to the information provided by CMS, Garrett County’s TCOC is higher than the national average for small counties and well above the 25<sup>th</sup> percentile of small counties. HSCRC staff also considered subsets of counties based on various population and economic characteristics. The results for the subsets of counties were similar.

The HSCRC staff has not yet obtained total cost of care data and benchmarks for commercial and Medicaid patients at a granular level, and staff cannot yet offer information on per capita efficiency or per capita cost growth for these payer categories at this time. However, given that Medicare represents approximately 50 percent of revenue at GRMC, this is a good proxy for reviewing GRMC’s impact on total cost of care.

Overall, HSCRC is concerned about the growth in total cost of care in GRMC’s service area. While GRMC expected that moving services back into the community would reduce cost, this reduction has not yet occurred and increases in volume are undermining its total cost of care performance. As discussed below, HSCRC staff will recommend a rate increase in spite of the excess growth in total cost of care, but with conditions for future performance.

***Potentially Avoidable Utilization***

While recognizing that there is extensive unnecessary and avoidable utilization in the system, and that HSCRC, providers, and the State have more work to do to quantify those opportunities for reduction, the staff analyzed the utilization efficiency of GRMC with the current tools it has. This included an analysis

of Potentially Avoidable Utilization (PAU), which currently incorporates all-cause unplanned 30-day readmissions and the Agency for Healthcare Research and Quality's Prevention Quality Indicators.

Overall, GRMC has moderate PAU revenue as a percent of eligible revenue<sup>4</sup> and continues to reduce this percent year over year following a large increase from CY 2013 (17.35 percent of eligible revenue) to CY 2014 (20.86 percent of eligible revenue). In CY 2015 and CY 2016, the GRMC percent of eligible all-payer revenue associated with PAU was 20.53 percent and 19.31 percent, respectively, putting it within the second top performing quartile in the State for both years (i.e., the percent revenue associated with PAU is lower than at least 50 percent of hospitals). In comparison, the average hospital PAU percent of eligible total revenue was 22.09 percent and 21.93 percent for CY15 and CY16, respectively.<sup>5</sup>

When the analysis was limited to Medicare FFS revenue only, the GRMC PAU percent of eligible Medicare FFS revenue was 26.83 percent in CY2015 and 25.31 percent in CY2016. In comparison, the State performance was 27.35 percent in CY2015 and 27.18 percent in CY2016. Overall for Medicare FFS in both 2015 and 2016, GRMC's performance was better than 56.5 percent of hospitals in the State, although it did not make the top quartile. However, these figures need to be risk-adjusted and converted to per capita measures in order to compare the results.

While there is still work to do to quantify PAU, and the PAU results are not risk-adjusted, GRMC has shown improvement in reducing the current definition of PAU following a significant increase in CY 2014.

While GRMC has experienced recent improvements in performance, significant additional improvements will be required for GRMC to maintain its financial performance and to improve care as called for under the Total Cost of Care Model. As indicated above, HSCRC staff will recommend requiring GRMC to demonstrate improvement in PAU over the upcoming five-year period.

## Quality Performance

Staff reviewed GRMC's performance on RY 2018 quality measures for readmissions, potentially preventable complications (PPCs), and the Quality Based Reimbursement domains.

Under the HSCRC's Readmissions Reduction Improvement Program, GRMC reduced its risk adjusted readmissions by 17.19 percent between CY 2013 and CY 2016, which was the 9<sup>th</sup> largest reduction in readmissions in the State. Relative to case-mix adjusted readmissions levels, GRMC's readmission rate of 5.83 percent is the lowest in the State; however, this does not account for readmissions in West Virginia or transfers to other hospitals. When adjusted for out of state readmissions, the readmission rate is 8.37 percent, which is the second lowest rate in the State.

Under the Maryland Hospital Acquired Conditions program, GRMC had a 32 percent improvement in its case-mix adjusted Potentially Preventable Complications rate for RY 2018, putting it above the statewide median improvement of 26 percent. In addition, GRMC's case-mix adjusted Potentially Preventable Complications rate for CY 2016 of 0.49 per one thousand discharges was better than the statewide

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<sup>4</sup> Eligible revenue is defined as all revenue from inpatient admissions and observation stays 23 hours or greater. This measure differs from the metric used in the PAU Savings Program, which is the percentage of PAU from total inpatient and outpatient revenue.

<sup>5</sup> Statewide average excludes Levindale and Holy Cross Germantown.



median rate of 0.70. However, it should be noted, that as a small hospital, GRMC is assessed on only 22 of the 52 categories of complications that were in the RY 2018 payment program.

Under the HSCRC’s Quality Based Reimbursement (QBR) program, GRMC had an overall QBR score of 37 percent in RY 2018, meaning that they scored 37 percent of possible points based on their performance on the national HCAHPS patient experience survey and mortality measures (GRMC does not have a Safety domain score, as it is a small hospital and is excluded from four of the six measures). While this score is low, 37 percent is above the State median score of 32 percent, though not in the top quartile of Maryland hospital performance. For the nine HCAHPS measures, GRMC improved on four measures, deteriorated on four measures, and stayed the same on one measure. Highlights include that GRMC improved 3.0 percent on the “Responsiveness,” “Communication about Medicines,” and “Clean and Quiet” between the base and performance periods. However, the “Overall Rating” for GRMC went down by 5.0 percent over the same periods. On the Mortality measure, GRMC had the highest improvement in the State, but was still below the median during the performance relative to other hospitals in Maryland. For the safety measures, GRMC is a small hospital and is only assessed on two measures— early elective deliveries and c. Difficile. While GRMC scored at the benchmark for early elective deliveries, the standardized infection ratio for c. Difficile increased from 0.4 to 1.0 between the base and performance period.

## Volume Growth

GRMC has experienced volume increases beyond the population growth of its primary service area. Listed below are the numbers of ECMADs for GRMC, as calculated by HSCRC staff, for the years ending June 30, 2013 through 2017:

**Table 3. GRMC Growth in ECMADs-For the 5 years Ended June 30, 2017**

Year Ended June 30,	ECMADs	Inpatient ECMADs	Outpatient ECMADs
2013	4,676	2,105	2,571
2014	4,098	1,857	2,241
2015	4,701	1,988	2,713
2016	5,165	2,153	3,012
2017	5,642	2,273	3,369

Source: HSCRC ECMAD and Charge Utilization Reports – September Preliminary, includes imputed ECMADs for drugs.

GRMC started an oncology program in FY 2016 which contributed to the growth in ECMADs between FY 2016 and FY 2017. GRMC also expanded the orthopedic surgery program at the Hospital. These programs were designed to provide services in the local community, reducing the need for patients to travel. GRMC also experienced an increase in one-day stays and observation cases, and it billed for patient education activities provided in its population health programs. These factors also resulted volume increases, which were not offset by volume reductions at other facilities.

The HSCRC staff supports competition based on cost and quality, and GRMC is a relatively efficient hospital. However, HSCRC staff is concerned that the per capita model could be undermined if hospitals can come back to capture volume growth or higher variable cost factors through rate requests after the growth has occurred. As stated in the Total Cost of Care Growth section of this report above, HSCRC



staff is concerned about the impact of volume growth on total cost of care. Based on its past history, GRMC states that it will be able to reduce its total cost of care in the near future by capitalizing on the investments it makes in population health improvement through the resources provided through this rate request.

The HSCRC has clearly stated that it does not intend to directly or indirectly fund physician losses aimed at capturing market share. Because of the significant contribution of physician losses and subsidies on GRMC’s financial performance and the potential for practice ownership to undermine the Total Cost of Care Model goals, the HSCRC staff reviewed financial analyses provided by GRMC for its physician subsidies. Staff also reviewed GRMC’s contracts with physicians to evaluate the extent to which its physician contracts might promote volume growth through payments tied to volume of services performed. HSCRC staff found that the majority of subsidies were for emergency room physicians and anesthesia clinicians, and that the contracts were generally not tied to volume levels. GRMC experienced severe turnover in its anesthesia and emergency room staff, and incurred costs for locum tenens (temporary staffing), recruiting costs, and increased compensation for some replacement staff. This recent experience at GRMC is similar to the experience of other rural hospitals nationwide as they face an aging physician population and a growing economy. However, HSCRC staff did conclude that the physician contracts did not appear to be stimulating the volume growth noted above through misalignment of incentives. Rather, the majority of the losses were tied to hospital-based physicians needed to operate a hospital.

## Financial Background and Performance

### *Hospital Charge Per Case History*

The table below compares the average charge per ECMAD by year for the fiscal years ending from June 30, 2014 (the first year of the GBR methodology) to June 30, 2017 for GRMC compared to the statewide average:

**Table 4. Comparison of GRMC Average Charge Per ECMAD, July 1, 2013-2017**

Year Ending June 30,	Average Charge Per ECMAD		Percent Variance
	GRMC	Statewide	
2014	\$11,470	\$13,461	(14.8%)
2015	\$9,886	\$13,640	(27.5%)
2016	\$9,284	\$14,099	(34.2%)
2017	\$9,717	\$14,407	(32.6%)
Percent Change 2014-17	(15.3%)	7.0%	

Source: HSCRC ECMAD and Charge Utilization Reports – September Preliminary, includes imputed ECMADs for drugs

GRMC’s average charge per ECMAD has moved from 14.8 percent below the statewide average in FY 2014 to 32.6 percent below the State average in FY 2017. GRMC’s charge per ECMAD is expected to be below the State due to its location and the level of teaching costs covered in the statewide figures. From FY 2014 through FY 2017, GRMC’s average charge per ECMAD decreased by approximately 15.3 percent, while the statewide average charge per ECMAD increased by 7.0 percent. The major reason for the lower increase in average charges per ECMAD at GRMC compared to the statewide average is that GRMC’s ECMADs increased by 37.6 percent between 2014 and 2017, while statewide ECMADs increased by 3.2 percent. The larger increase in volumes at GRMC caused its rates to increase at a lower rate

under the global revenue budget, compared to other hospitals whose volumes increased less rapidly, and as a result GRMC experienced higher rate increases. As discussed above, while the charge per case comparison shows a relative improvement in price efficiency, it is also important to understand whether the volume increases resulted in cost per capita increases.

### ***Hospital Rate History***

GRMC entered into a Total Patient Revenue (TPR) agreement effective July 1, 1990, which was subsequently modified to a GBR agreement. Under the TPR/GBR agreement, GRMC has received the following adjustments over the last five years:

**Table 5. GRMC’s TPR/GBR Adjustments, July 1, 2013-2017**

Component:	Year Beginning July 1,				
	2013	2014	2015	2016	2017
Update Factor	1.5%	2.3%	2.3%	1.6%	2.4%
Mark Up Change	(.1%)	(.7%)	(1.2%)	(.6%)	(.1%)
Population Adjustment	.3%	.3%	1.2%	.3%	(.1%)
Market Shift				1.2%	.2%
Quality Adjustments			.2%	1.0%	
Capital				3.6%	(.8%)
Infrastructure			.7%	.4%	
New Oncology Program			4.1%	4.8%	(1.2%)
Orthopedic Adjustment				1.2%	
Other	(.2%)	(.2%)	(1.5%)	1.2%	.6%
Total	1.5%	1.7%	5.8%	14.7%	1.0%

Source: Rate review work papers provided by GRMC as part of full rate application.

The HSCRC staff has worked with GRMC over the last three years to address various expense increases such as additional capital costs, funding for GRMC’s oncology program, and other adjustments in addition to the normal update factor.

### ***Revenue Growth***

GRMC’s regulated revenues have increased by \$11.2 million or 25.5% percent since FY 2013.

**Table 6. Change in GRMC Gross Patient Revenue-For the 5 years Ended June 30, 2017**

Year Ended June 30	Gross Revenue (in 000’s)	Percent Change from Prior Year
2013	\$44,018	
2014	\$47,007	6.8%
2015	\$46,608	(.8%)
2016	\$48,480	4.0%

2017	\$55,259	14.0%
Change 2013 to 2017	\$11,241	25.5%

Source: HSCRC Monthly Experience Reports.

### Operating Margins

Table 7 below shows the GRMC's regulated operating margins it reported to HSCRC. Also, the table shows growing "unregulated" hospital losses. These losses are for subsidies to hospital-based physicians including emergency room physicians, anesthesiologists, and other specialized physicians:

**Table 7. GRMC Regulated and Unregulated Annual Profit Margins-For the 5 years Ended June 30, 2017**

	Year Ended June 30, (in 000's)				
	2013	2014	2015	2016	2017
Regulated Profit	\$2,570	\$4,172	\$3,865	\$2,751	\$4,042
Regulated Profit Margin	7.9%	12.0%	10.9%	7.0%	9.3%
Unregulated Profit (Loss)	(\$529)	\$67	\$940	(\$2,485)	(\$2,229)
Unregulated Profit Margin	(8.0%)	1.2%	15.2%	(29.5%)	(24.2%)
Total Profit (Loss)	\$2,041	\$4,239	\$4,805	\$266	\$1,813
Total Profit Margin	5.2%	10.6%	11.6%	.6%	3.4%

Source: GRMC HSCRC Annual Reports – Schedule RE.

GRMC has averaged a profit margin of 9.4 percent on regulated services over the last five years. For all services, GRMC has averaged a profit margin of 6.3 percent over the last five years. However, in the last two years, GRMC's total profit margin has declined significantly primarily as the result of physician practice losses.

Separate income statements for GRMC are provided for hospital services and physician practices in GRMC's audited financial statements. Listed in Table 8 below are reported profits and losses for hospital services and physician practices provided separately for the five years ending June 30, 2017 according to the audited financial statements.

**Table 8. GRMC Hospital and Physician Practice Profits and Losses-For the 5 years Ended June 30, 2017**

	Year Ended June 30, (in 000's)				
	2013	2014	2015	2016	2017
Hospital	\$1,774	\$4,663	\$5,560	\$1,866	\$4,091
Physician Practices	\$267	(\$424)	(\$755)	(\$1,600)	(\$2,278)
Total	\$2,041	\$4,239	\$4,805	\$266	\$1,813

Source: GRMC Audited Financial Statements-Supplemental Information.

Table 8 indicates that GRMC has performed well on hospital services while incurring growing losses on physician practices from 2013 through 2017. In FY 2013 and FY 2014, GRMC's physician practices included only Emergency Room physicians. In FY 2015, GRMC added Anesthesiologists, CRNA's and other specialty physicians. GRMC has stated that the losses on physician practices will be approximately \$3,000,000 in FY 2018.

According to the unaudited monthly FSA schedule submitted for the 9 months ended March 31, 2018, GRMC reported an operating loss of -\$55,531 for regulated services, an operating loss of -\$1,153,730 for unregulated services and a total loss, including non-operating income, of -\$598,913, or a -2.98% total loss. On an overall financial basis, GRMC appears to be performing much worse in FY 2018.

***Salary and Employee Benefit Comparison to Other Neighboring Hospitals***

Staff evaluated GRMC’s salaries and benefits utilizing the most recent Medicare Cost report information available and the 2016 HSCRC Wage and Salary Survey information. Listed in Table 9 is a comparison of GRMC’s overall salaries, employee benefits, and hours per the Medicare Cost Reports filed by hospitals for fiscal years ending in Calendar Year 2015, which was the most recent period available for hospitals neighboring GRMC.

**Table 9. Comparison of Salary and Employee Benefits  
GRMC and Neighboring Hospitals – 2015**

Hospital	Average Total Salaries per Hour	Total Employee Benefit as a Percent of Salaries	Health Insurance Costs as a Percent of Salaries
GRMC	\$23.83	35.0%	21.6%
Western Maryland	\$27.66	30.5%	14.3%
Meritus	\$29.87	27.4%	14.5%
West Virginia University	\$25.81	24.3%	6.4%
Somerset-PA	\$23.30	27.8%	11.1%
Uniontown-PA	\$23.35	27.6%	14.2%

Source: Medicare Cost Report data – Schedule S-3 for Medicare Cost Reports filed during Calendar Year 2015.

This table indicates that GRMC was paying significantly more for health insurance and pension costs as a percent of total salaries than other neighboring hospitals in 2015.

As part of the discussions regarding additional information for the full rate application, GRMC submitted corrected data to the Fringe Benefit (FB) schedules for the 2015 and 2016 HSCRC Wage and Salary surveys. The corrected FB data shows GRMC’s total fringe benefits calculated using the HSCRC methodology at 47.1 percent of salaries while health insurance costs equaled 27.1 percent of salaries. GRMC’s total fringe benefit percentage and health insurance percentages were the highest of any hospital in the State.

Up until January 1, 2017, GRMC maintained a defined benefit pension plan. As of January 1, 2017, all new hires were not eligible for the defined benefit pension plan but the employees hired before January 1, 2017, are still eligible to receive benefits under the defined benefit pension plan.

To further evaluate the level of GRMC’s salaries and benefits to other nearby hospitals, HSCRC staff calculated the difference between GRMC’s salaries and benefits reported on the 2015 and 2016 HSCRC Wage and salary Surveys and Western Maryland’s salaries and benefits. Western Maryland is the only hospital close to GRMC in Maryland where staff has comparable wage and salary data. In 2015, GRMC’s average salaries and benefits were 14.5 percent below Western Maryland’s salaries and benefits

weighted by GRMC hours per position. In 2016, GRMC's average salaries and benefits were 13.2 percent below Western Maryland's salaries and benefits weighted by GRMC hours per position.

## Summary of Findings

The HSCRC staff has reviewed the financial performance and efficiency of GRMC since the latter part of 2017. GRMC is relatively efficient in charge per case performance and in its per case efficiency under the preliminary ICC tool. GRMC's profit margin has declined in the last three years due to increased losses on physician practices.

GRMC has experienced volume increases beyond the growth in its service area population. The increases in volume may be contributing to the poor results in the Medicare total cost of care performance in GRMC's primary service area between 2013 and 2016

GRMC has lower levels of potentially avoidable utilization than other Maryland hospitals, although there continues to be significant room for improvement. GRMC also has performed well on quality measures compared to the rest of the State.

Although GRMC's employee fringe benefits as a percentage of salaries are the highest in the State with health insurance costs accounting for the largest fringe benefit variance, the total cost per hour for similar employees is lower than the reported costs for Western Maryland Health System's salaries and benefits.

In spite of its negative performance in total cost of care growth, HSCRC staff is recommending a rate increase that will cover all of the requested increase contained in the rate application except for the increase in physician subsidies. This recommendation is based on the financial challenges GRMC faces, together with its favorable cost per case performance. Some of this increase is provided to address the growth in salaries faced by GRMC. The RY 2019 update includes a 2.4 percent adjustment for salary increases. Since salary levels are being addressed with the RY 2019 update, staff will recommend that GRMC's RY 2019 update adjustment be reduced by one percent, in recognition that part of the salary increases are being funded in advance through this rate application.

While the HSCRC staff is concerned with the deterioration in total cost of care growth for Garrett County, GRMC has expressed its expectation of achieving cost and avoidable utilization reductions by deploying the investments provided through this rate application, as it has done in the past. HSCRC staff recommends that GRMC be required to demonstrate this through specific commitments. GRMC has expressed an interest in making commitments relative to COPD and diabetes, as well as total cost of care performance.

## Recommendations

Based on a thorough consideration of all of the analysis performed and staff's findings, staff makes the following recommendations for Commission consideration:

1. A permanent revenue increase of \$4,878,975 be provided effective March 3, 2018,<sup>6</sup> inclusive of all settlements through December 31, 2017, with \$1,626,010 collected during FY 2018. The total amount recommended includes any additional increases in drug costs related to increased use of high cost outpatient oncology drugs for FY 2018 over 2017. This does not include quality adjustments under the QBR, which have not yet been applied or other quality program adjustments that are due to be applied on July 1, 2018 or thereafter.
2. GRMC must accept inflation less 1 percent at its next scheduled update in recognition that part of the salary increases are being funded in advance through this rate application.
3. Any incremental savings adjustments and any rate reductions implemented by the Commission will fully apply.

### **Additional Requirements:**

4. GRMC believes strongly in managing the total cost of care for all residents in its service area, and it will continue to invest in the necessary infrastructure to truly manage the health of the people it serves. GRMC must agree to reduce the hospitalizations for COPD patients in its service area by 25 percent over five years. The hospital will do this through early testing and prevention, smoking cessation efforts, vaccinations, care and medication management, and pulmonary rehabilitation. Because this commitment has not been thoroughly evaluated, GRMC and HSCRC staff may revise the target with further analysis. HSCRC and GRMC will develop similarly aggressive target for diabetes prevention and reduction in avoidable use.
5. GRMC and HSCRC will develop and evaluate total cost of care and utilization benchmarks for GRMC's service area using national Medicare benchmark data. HSCRC recognizes that GRMC has one of the lowest cost-per-case rankings in the State. However, because a revenue increase is being provided in spite of excess total cost of care growth, GRMC must work with HSCRC to establish an appropriate Medicare total cost of care benchmark for its service area. Over a five-year period, GRMC must reach its benchmark attainment goal, consistent with the requirements of the Total Cost of Care Model Agreement with CMS.
6. GRMC, HSCRC, and Medicaid will work to develop total cost of care benchmarks for Medicaid. GRMC will develop goals for the Medicaid upon completion of these efforts.

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<sup>6</sup> The effective date is based on a filing date of February 1, 2018, which was when GRMC ultimately submitted all necessary information required under COMAR 10.37.10.03B. By law, the effective date for rates must be at least 30 days after a rate application is filed. See Md. Code Ann., Health-Gen. § 19-222(a)(2).

**IN RE; THE PARTIAL RATE  
APPLICATION OF  
UNIVERSITY OF MARYLAND  
MEDICAL SYSTEM**

**BALTIMORE, MARYLAND**

**\* BEFORE THE MARYLAND HEALTH  
\* SERVICES COST REVIEW  
\* COMMISSION  
\*  
\* DOCKET: 2018  
\* FOLIO: 2242  
\* PROCEEDING: 2432R**

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**Staff Recommendation**

**June 13, 2018**

## **I. INTRODUCTION**

On March 19, 2018, the University of Maryland Medical System (the “System”) on behalf of the University of Maryland St. Joseph Medical Center (St. Joseph), University of Maryland Upper Chesapeake Medical Center (UCMC), and University of Maryland Medical Center (UMMC) submitted a partial rate application to the Commission requesting that the rates of ST. St. Joseph, UCMC, and UMMC be revised to reflect that the outpatient infusion clinics at St. Joseph and UCMC will operate as an off-site provider-based child-sites of UMMC for purposes of the federal 340B program. The System requests that:

- 1) A total of \$41,944,401 be transferred from St. Joseph’s Global Budget Revenue (GBR) cap to UMMC’s GBR cap. \$ 6,990,742 to be transferred effective May 1, 2018 and \$ 34,953,662 to be transferred effective July 1, 2018;
- 2) A total of \$39,762,023 be transferred from UCMC’s GBR cap to UMMC’s GBR cap. \$6,626,991 to be transferred effective May 1, 2018 and \$ 33,135,033 to be transferred effective July 1, 2018;
- 3) The Commission approve new unit rates for St. Joseph’s and UCMC’s infusion clinics on UMMC’s rate order effective May 1, 2018;
- 4) The Commission exclude the revenue for the new unit rates from rate realignment; and
- 5) The Commission adjust rate order volumes in St. Joseph’s, UCMC’s, and UMMC’s rate orders to maintain a revenue neutral impact to rate capacity as a result of the request

Maryland 2015 legislation (Senate Bill 513) altered the definition of “hospital services to include hospital outpatient services of a hospital that is designated as part of another hospital under the same merged asset system to make it possible for the hospital to participate in the federal 340B Prescription Drug Discount program.

In order to avail itself of the new legislation, UMMC requests that effective May 1, 2018



infusion clinic services provided at St. Joseph and UCMC be approve to begin operations as part of the UMMC oncology program. The outpatient infusion clinics located at St. Joseph and UCMC will be able to operate as off-site provider-based child-sites of UMMC in accordance with Medicare's rules for provider-based status. As a result of this, request, the child-sites at St. Joseph and UCMC will be able to participate in the 340B outpatient drug discount program under UMMC's eligibility.

The System requests that the revision of rates and revenue between St. Joseph, UCMC, and UMMC be effective May 1, 2018.

### **Staff Findings**

In its review, staff found that the revenue requested to be transferred from St. Joseph and UCMC to UMMC appears to accurately reflect the annual revenue generated by the infusion clinics at St. Joseph and UCMC. In addition, the rates and revenue requested to be added to UMMC's Approved rate Order and GBR are those approved by the HSCRC for RY 2018 for the infusion clinic services in St. Joseph's and UCMC's GBR.

### **Recommendation**

After review of the application staff recommends that the System's request be approved because: 1) it will enable UMMC to provide lower cost services to current oncology patients, and 2) it will generate future saving to the Maryland healthcare system and to oncology patients through lower drug costs at the St. Joseph and UCMC locations.

Staff recommends that the approval be contingent upon UMMC applying for and receiving provider-based status from the Centers for Medicare and Medicaid Services for the infusion clinics at the St. Joseph and UCMC sites.

The staff also recommends that the following rates and two months of the annual revenue

for the infusion clinic services provided at the St. Joseph and UCMC locations be approved and added to UMMC's approved rated order and GBR effective May 1, 2018:

1. Clinic rates of \$ 48.78736 and \$ 40.8059 per RVU respectively for the St. Joseph and UCMC locations and revenue of \$ 1,535,415 and \$ 1,568,293 respectively;
2. Laboratory rates of \$ 2.0467 and \$ 2.6123 per RVU respectively for the St. Joseph and UCMC locations and revenue of \$ 172,332 and \$ 174,624 respectively; and
3. Drug revenue of \$ 5,282,995 and \$ 4,884,073 respectively for St. Joseph and UCMC locations.

In addition, the staff recommends that effective July 1, 2018 the remaining 10 months of the annual revenue for the services provided at the St. Joseph and UCMC locations be added to UMMC's approved RY 2019 rate order and GBR:

1. Clinic revenue of \$ 7,677,026 and \$ 7,841,547 respectively for the St. Joseph and UCMC locations;
2. Laboratory revenue of \$ 861,661 and \$ 872,122 respectively the St. Joseph and UCMC locations;
3. Drug revenue of \$ 26,414,975 and \$ 24,420,364 respectively for St. Joseph and UCMC locations; and
4. The rates for the infusion clinic services provided at the St. Joseph and UCMC locations be exclude from rate realignment.

<b>IN RE: THE PARTIAL RATE</b>	<b>*</b>	<b>BEFORE THE HEALTH SERVICES</b>	
<b>APPLICATION OF THE</b>	<b>*</b>	<b>COST REVIEW COMMISSION</b>	
<b>CALVERT HEALTH</b>	<b>*</b>	<b>DOCKET:</b>	<b>2018</b>
<b>MEDICAL CENTER</b>	<b>*</b>	<b>FOLIO:</b>	<b>2246</b>
<b>PRINCE FREDERICK, MARYLAND</b>	<b>*</b>	<b>PROCEEDING:</b>	<b>2436R</b>

.....

**Staff Recommendation**

**June 13, 2018**

**I. Introduction**

On April 27, 2018, Calvert Health Medical Center (the “Hospital”) submitted a partial rate application to the Commission pursuant to COMAR 10.37.10.03-1. The Hospital requests that its Medical Surgical Acute Unit (MSG) and Pediatric Unit (PED) rates be combined effective July 1, 2018 utilizing FY 2019 approved volumes and revenues.

**II. Staff Evaluation**

This rate request is revenue neutral and will not result in any additional revenue for the Hospital as it only involves the combining of two revenue centers. The Hospital wishes to combine these two centers because, according to the Hospital, the pediatric center’s volume is minimal and does not represent a large population of total patients admitted to the Hospital. The PED center has one licensed bed. According to the HSCRC’s Accounting and Budget Manual, MSG and PED are considered to be separate distinct patient care units. However, it appears that the Hospital does not have an organized pediatric inpatient service, as a pediatric bed has not been assigned to a particular patient room. In addition, the Hospital has been treating pediatric patients in general MSG units based upon bed availability. Pediatric patients have similar staffing needs as general MSG patients and nursing-to-patient staffing ratios for both patient populations are very similar. The Hospital’s currently approved rates are as follows:

	Current Rate	Budgeted Volume	Approved Revenue
Medical Surgical Acute	\$999.34	5,696	\$5,691,874
Pediatrics Acute	\$1,593.33	262	\$417,037
Combined Rate	\$1,025.33	5,958	\$6,108,911

**III. Recommendation**

After reviewing the Hospital’s application, the staff recommends as follows:

1. That the Hospital be allowed to consolidate its PED rate into its MSG rate effective July 1, 2018;
2. That FY 2019 approved volume and revenue will be utilized to calculate the combined rate; and
3. That no change be made to the Hospital’s Global Budget Revenue.

**IN RE: THE APPLICATION FOR  
ALTERNATIVE METHOD OF RATE  
DETERMINATION  
UNIVERSITY OF MARYLAND  
MEDICAL CENTER  
BALTIMORE, MARYLAND**

**\* BEFORE THE MARYLAND HEALTH  
\* SERVICES COST REVIEW  
\* COMMISSION  
\* DOCKET: 2018  
\* FOLIO: 2247  
\* PROCEEDING: 2437A**

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**Staff Recommendation**

**June 13, 2018**

## **I. INTRODUCTION**

The University of Maryland Medical Center (“Hospital”) filed an application with the HSCRC on May 24, 2018 for an alternative method of rate determination under COMAR 10.37.10.06. The Hospital requests approval to continue to participate in a global rate arrangement with the Kaiser Foundation Hospitals and the Permanente Federation, LLC (“Kaiser”) for Heart Transplant and Mechanical Circulatory Support services for a period of one year beginning July 1, 2018.

## **II. OVERVIEW OF APPLICATION**

The contract will be continue to be held and administered by University Physicians, Inc. (UPI), which is a subsidiary of the University of Maryland Medical System. UPI will manage all financial transactions related to the global price contract including payments to the Hospital and bear all risk relating to services associated with the contract.

## **III. FEE DEVELOPMENT**

The hospital portion of the global rates was developed by calculating historical charges for patients receiving the procedures for which global rates are to be paid. The remainder of the global rate is comprised of physician service costs. Additional per diem payments were calculated for cases that exceed a specific length of stay outlier threshold.

## **IV. IDENTIFICATION AND ASSESSMENT OF RISK**

The Hospital will continue to submit bills to UPI for all contracted and covered services. UPI is responsible for billing the payer, collecting payments, disbursing payments to the Hospital at its full HSCRC approved rates, and reimbursing the physicians. The Hospital contends that the arrangement between UPI and the Hospital holds the Hospital harmless from any shortfalls in payment from the global price contract.

## **V. STAFF EVALUATION**

Although there was no activity under this arrangement, staff believes that the Hospital can

achieve a favorable experience under this arrangement.

## **VI. STAFF RECOMMENDATION**

The staff recommends that the Commission approve the Hospital's application to continue an alternative method of rate determination for Heart Transplant and Mechanical Circulatory Support services, for a one year period commencing July 1, 2018. The Hospital will need to file a renewal application for review to be considered for continued participation.

Consistent with its policy paper regarding applications for alternative methods of rate determination, the staff recommends that this approval be contingent upon the execution of the standard Memorandum of Understanding ("MOU") with the Hospital for the approved contract. This document would formalize the understanding between the Commission and the Hospital, and would include provisions for such things as payments of HSCRC-approved rates, treatment of losses that may be attributed to the contract, quarterly and annual reporting, confidentiality of data submitted, penalties for noncompliance, project termination and/or alteration, on-going monitoring, and other issues specific to the proposed contract. The MOU will also stipulate that operating losses under the contract cannot be used to justify future requests for rate increases.

**IN RE: THE APPLICATION FOR  
ALTERNATIVE METHOD OF RATE  
DETERMINATION  
JOHNS HOPKINS HEALTH  
SYSTEM  
BALTIMORE, MARYLAND**

**\* BEFORE THE MARYLAND HEALTH  
\* SERVICES COST REVIEW  
\* COMMISSION  
\* DOCKET: 2018  
\* FOLIO: 2248  
\* PROCEEDING: 2438A**

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**Staff Recommendation**

**June 13, 2018**



## **I. INTRODUCTION**

Johns Hopkins Health System (“System”) filed an application with the HSCRC on May 25, 2018 on behalf of its member hospitals (the “Hospitals”) for an alternative method of rate determination, pursuant to COMAR 10.37.10.06. The System requests approval from the HSCRC to continue to participate in a global arrangement to provide solid organ and bone marrow transplants services with Cigna Health Corporation. The System requests approval of the arrangement for a period of one year beginning July 1, 2018.

## **II. OVERVIEW OF APPLICATION**

The contract will continue to be held and administered by Johns Hopkins HealthCare, LLC (“JHHC”), which is a subsidiary of the System. JHHC will continue to manage all financial transactions related to the global price contract including payments to the Hospitals and bear all risk relating to regulated services associated with the contract.

## **III. FEE DEVELOPMENT**

The hospital portion of the new global rates for solid organ transplants was developed by calculating mean historical charges for patients receiving the procedures for which global rates are to be paid. The remainder of the global rate is comprised of physician service costs. Additional per diem payments were calculated for cases that exceed a specific length of stay outlier threshold.

## **IV. IDENTIFICATION AND ASSESSMENT OF RISK**

The Hospitals will continue to submit bills to JHHC for all contracted and covered services. JHHC is responsible for billing the payer, collecting payments, disbursing payments to the Hospitals at their full HSCRC approved rates, and reimbursing the physicians. The System contends that the arrangement among JHHC, the Hospitals, and the physicians holds the Hospitals harmless from any shortfalls in payment from the global price contract. JHHC maintains it has been active in similar types of fixed fee contracts for several years, and that JHHC is adequately capitalized to bear risk of potential losses.

## **V. STAFF EVALUATION**

Staff found that the experience under the arrangement for the last year has been favorable.

## **VI. STAFF RECOMMENDATION**

The staff recommends that the Commission approve the Hospitals' request for participation in an alternative method of rate determination for bone marrow and solid organ transplant services, for a one year period commencing July 1, 2018, and that this approval be contingent upon the execution of the standard Memorandum of Understanding ("MOU"). The Hospitals will need to file a renewal application for review to be considered for continued participation.

Consistent with its policy paper regarding applications for alternative methods of rate determination, the staff recommends that this approval be contingent upon the execution of the standard Memorandum of Understanding ("MOU") with the Hospitals for the approved contract. This document would formalize the understanding between the Commission and the Hospitals, and would include provisions for such things as payments of HSCRC-approved rates, treatment of losses that may be attributed to the contract, quarterly and annual reporting, confidentiality of data submitted, penalties for noncompliance, project termination and/or alteration, on-going monitoring, and other issues specific to the proposed contract. The MOU will also stipulate that operating losses under the contract cannot be used to justify future requests for rate increases.



# Total Cost of Care Model Implementation 2018-2019

Health Services and Cost Review Commission  
June 2018



# Maryland's Total Cost of Care (TCOC) Model

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- **CMS approved a new 10-year model for Maryland.**
  - Starts January 1, 2019
  - Builds on the All-Payer Hospital Model
  - Moves beyond hospitals to further improve health and healthcare outcomes, and to slow the growth of per capita healthcare spending
  - Uses State flexibility to promote private-sector efforts

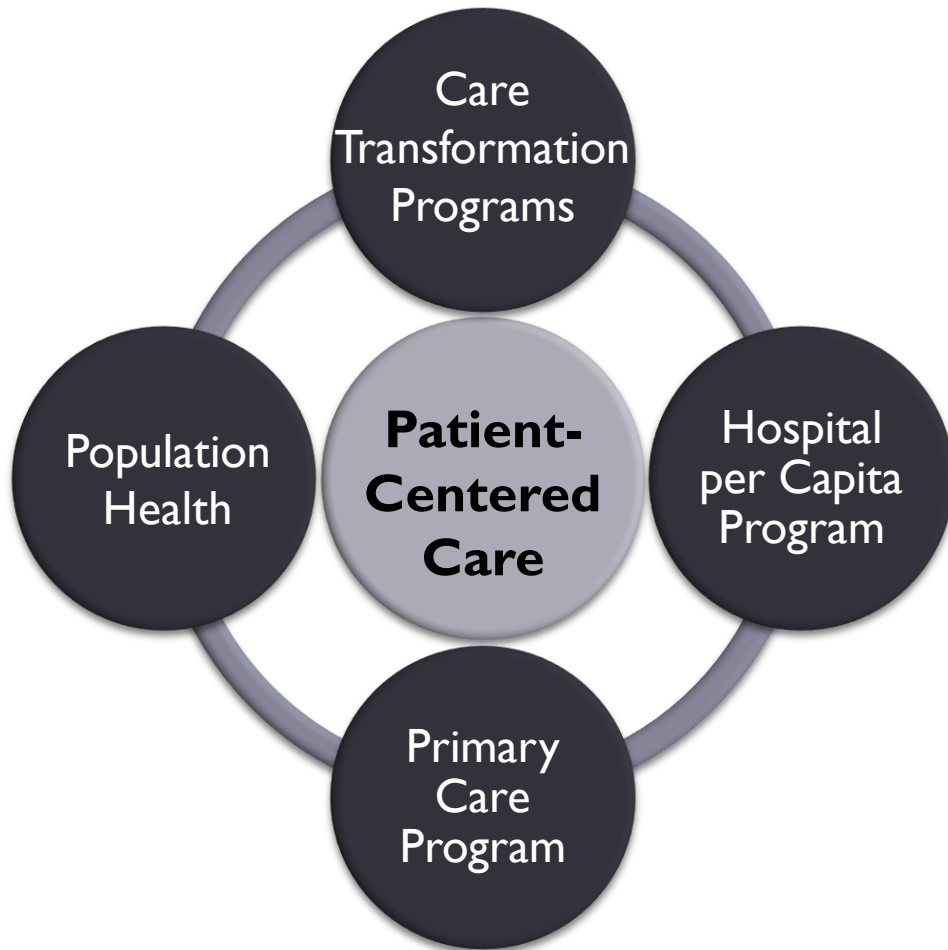
# Key Requirements of TCOC Model

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- Reach \$300 million in annual savings to Medicare (relative to 2013 base) by 2023 through slower total spending growth per beneficiary
  - Projected \$1 billion of total savings during the first 5 years (2019-2023)
  - In 2017, annual savings to Medicare at almost \$140 million relative to 2013 base
- Limit total hospital spending for all payers to <3.58% annually per capita
- Improve health, healthcare outcomes, and chronic care

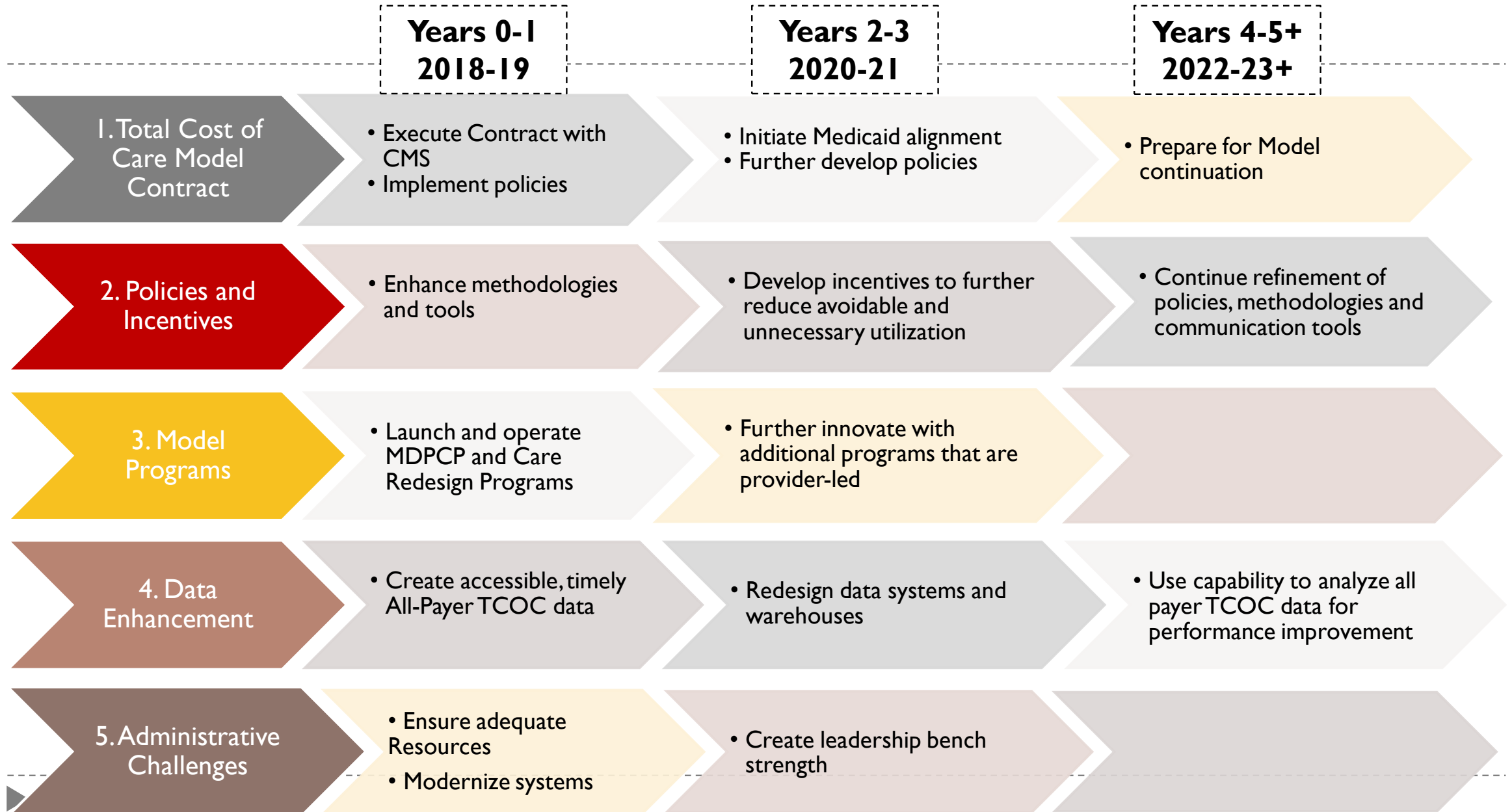
# Overview of Total Cost of Care Model Components

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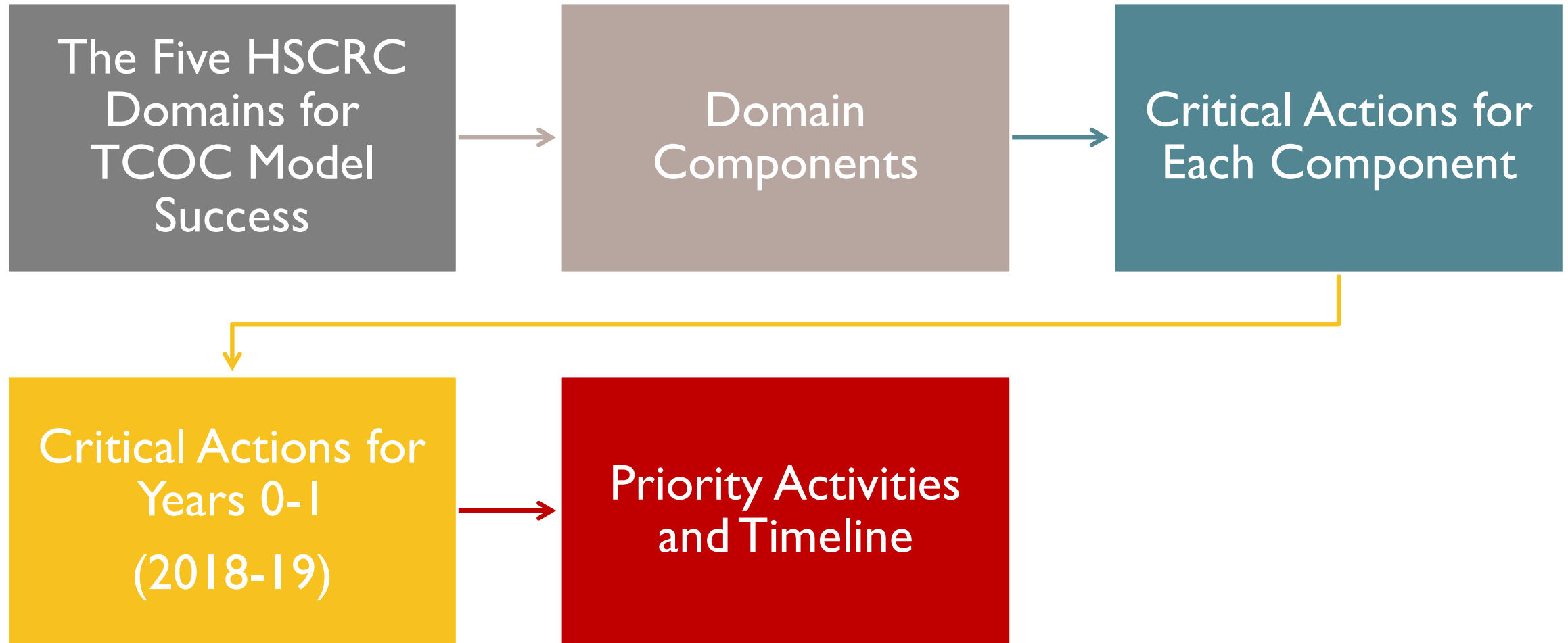
- Continues and enhances hospital program that limits growth per capita for all payers.
- Expands care transformation programs to enable private sector-led programs supported by State flexibility.
- Initiates the Maryland Primary Care Program (MDPCP) to enhance patient centeredness, chronic care and health improvement.
- Harnesses public and private sector efforts to address population health issues, including opioid use, diabetes, and other chronic conditions.

# Roadmap for TCOC Model Success



# Process Map for 2018 Priority Activity Development

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# 2018/2019 HSCRC Priority Activities

## 1. Total Cost of Care Model Contract

- Complete the TCOC contract
- Communications rollout and signing ceremony
- Small meetings with stakeholders and commissioners/staff to discuss success factors, priorities
- Develop 3-5 key outcome objectives for the five-year horizon

## 2. Clear Policies and Incentives for the Total Cost of Care Model

- Enhance building blocks for policy advancement
- Implement policy tools
- Update policies for TCOC Model

## 3. Launch and Operate Model Programs

- Support MDPCP Rollout
- Implement and enhance care redesign programs
- Develop approach and infrastructure for new model programs beyond hospitals

4 and 5. Ongoing: Staff expansion, succession, and enhanced data infrastructure

## 2a. Clear Policies and Incentives: Enhance Building Blocks

<b>HSCRC Tasks</b>	<b>Importance and Rationale</b>
<p>Improve Volume Measures</p> <ul style="list-style-type: none"> <li>- Cycle-billed services</li> <li>- Clinic RVUs</li> <li>- High-cost Drugs</li> </ul>	<p>Needed for efficiency measurement and volume policy development (PAU, Demographic Adjustment, Market Shift)</p>
<p>ICC Refinements</p> <ul style="list-style-type: none"> <li>- Incorporate cycle billed services</li> <li>- Site neutrality</li> <li>- Indirect Medical Education Differentiation</li> <li>- Targeted Reductions to Profit Strips</li> <li>- Per capita measures</li> </ul>	<p>Better efficiency measures in an enhanced per capita context</p>
<p>Cost and Rate Realignment and Differential Impact</p> <ul style="list-style-type: none"> <li>- Inpatient Room &amp; Board, ER &amp; clinic charges, and drug overhead</li> <li>- Private payer uncompensated care</li> </ul>	<p>Improved cost accounting to support decision management and to better relate rates to cost. An adjustment to the payer differential is needed to accompany these two changes.</p>
<p>Develop TCOC and Utilization Benchmarks</p> <ul style="list-style-type: none"> <li>- Expand PAU Definitions</li> <li>- Refine application of methodology</li> </ul>	<p>Needed at hospital specific levels for MPA attainment and policy development.</p>









## 2b. Clear Policies and Incentives: Update Policies for TCOC Model

<b>HSCRC Tasks</b>	<b>Importance and Rationale</b>
Align Quality, Outcomes, and Value Policies with Key Objectives and Contract Requirements	Initiating and refining the policies and incentives to drive success under the new TCOC Model.
Redesign global budget policies including MPA modification	
Develop New Hospital Contracts	Incorporating new policies and Model requirements.
Address deregulation	Clarify hospital revenue adjustments.

## 2c. Clear Policies and Incentives: Implement Policy Tools

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<b>HSCRC Tasks</b>	<b>Importance and Rationale</b>
Hospital revenue reductions for outlier high-cost hospitals (top 5)	Implement efficiency tools and realize efficiencies.
Adjust hospital revenues for shifts to unregulated settings	Ensuring payers are not overpaying for services through the hospital global revenues and additional setting.
Develop MPA infrastructure -Process with CMS intermediary -Calculation processes	Prepare to execute payment adjustment on July 1, 2019.

		2019 Target Completion:		
		January	July	December
1. Total Cost of Care Model Contract	<ul style="list-style-type: none"> <li>- Complete the TCOC contract communications rollout and signing ceremony</li> <li>- Small meetings with stakeholders and commissioners/staff to discuss success factors, priorities</li> <li>- Develop Bold Improvement Goals (BIG) for the five-year horizon</li> </ul>	✓ ✓ ✓		
2a. Clear Policies and Incentives: Enhance Building Blocks	<ul style="list-style-type: none"> <li>- Improve volume measures</li> <li>- ICC Refinements</li> <li>- Cost and Rate Realignment and Differential Impact</li> <li>- Develop TCOC and utilization benchmarks</li> </ul>	 ✓  ✓ 	✓	
2b. Clear Policies and Incentives: Update Policies for TCOC Model	<ul style="list-style-type: none"> <li>- Align Quality, Outcomes, and Value Policies with Key Objectives and Contract Requirements</li> <li>- Redesign global budget policies including MPA modification</li> <li>- Develop New Hospital Contracts</li> <li>- Address deregulation</li> </ul>	 ✓  		
2c. Clear Policies and Incentives: Implement Policy Tools	<ul style="list-style-type: none"> <li>- Hospital revenue reductions for outlier high-cost hospitals (top 5)</li> <li>- Adjust hospital revenues for shifts to unregulated settings</li> <li>- Develop MPA infrastructure</li> </ul>	✓ 	✓ ✓	
3. Launch and Operate Model Programs	<ul style="list-style-type: none"> <li>- Support MDPCP Rollout</li> <li>- Implement and enhance care redesign programs</li> <li>- Develop approach and infrastructure for new model programs beyond hospitals</li> </ul>	 ✓		✓



# Status Update on ED Wait Times in RY 2020 QBR Policy

06/13/2018

# Recommendations in Final Policy (Approved)

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- ▶ Update the Maryland Mortality Measure to include palliative care cases (risk-adjusted for palliative care status) for calculating attainment and improvement scores.
- ▶ Include ED Wait Times measures (ED-1b and ED-2b) in the Person and Community Engagement domain; HSCRC **staff will work with industry and MIEMSS to determine if there is appropriate risk adjustment for the measures by 7/1/18.**
- ▶ Continue to weight the domains as follows for determining hospitals' overall performance scores: Person and Community Engagement - 50%, Safety - 35%, Clinical Care - 15%.
- ▶ Maintain RY 2019 Pre-set scaling options, and continue to hold 2% of inpatient revenue at-risk for the QBR program.

# MPR – Additional Analysis (Conclusions)

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- ▶ **Volume** is positively and significantly correlated with ED Wait Times
- ▶ **Occupancy** is significantly correlated with ED Wait Times; but also significantly correlated with Volume, for which QBR already adjusts.
- ▶ **DSH patient percentage** is moderately associated with longer ED Wait Times.
- ▶ **SSI** status; **Case mix**; and other factors were weakly associated with longer ED Wait Times.

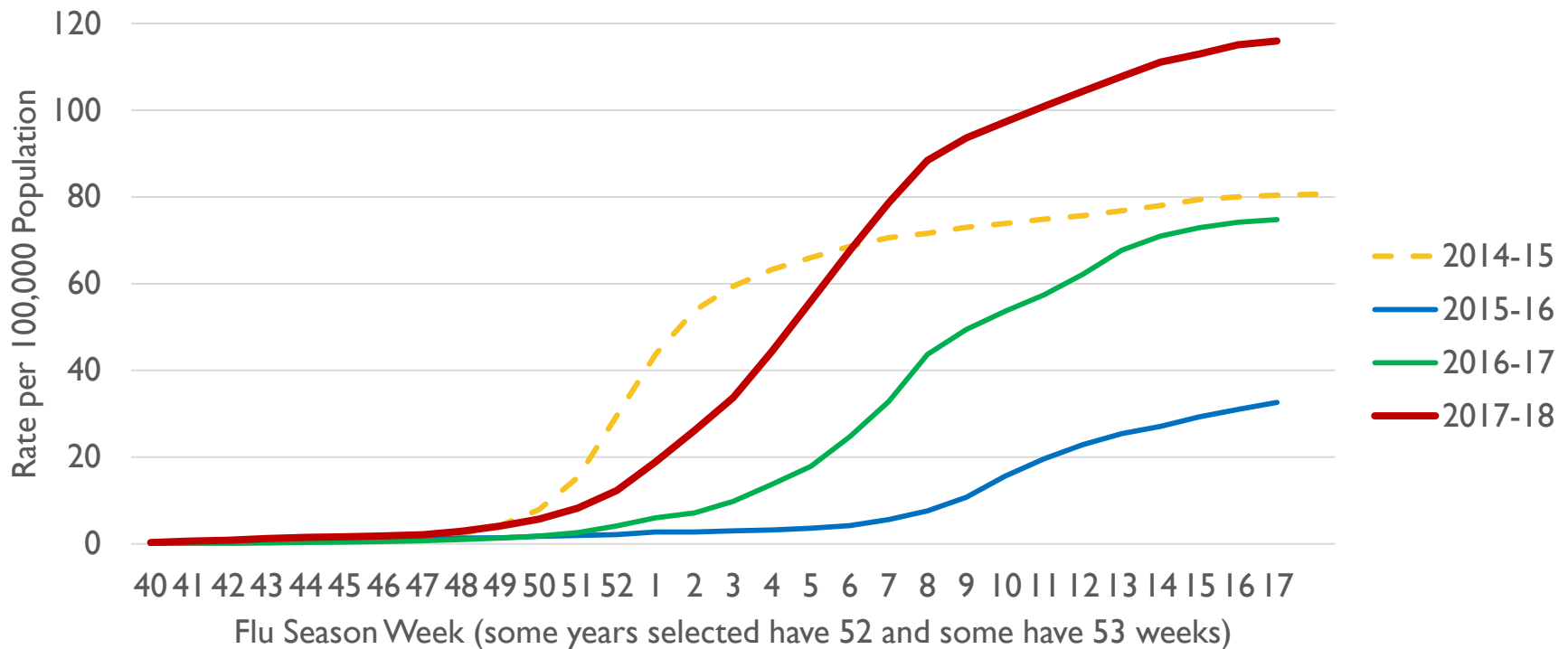
Risk-Adjustment	Regression Description	ED_1b	ED_2b
None	Unadjusted average wait time difference US and MD	120	63
Volume Only	Average wait time difference adjusted for volume	86	37
Full Model	Average wait time difference adjusted for all factors	74	28



# Additional Variable for Consideration – Historic Flu Season

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FluSurv-NET (CDC): Maryland: Cumulative Rate of Lab-Confirmed  
Influenza Hospitalizations  
Preliminary as of 4/28/2018



# Conclusion

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- ▶ No additional risk adjustment is necessary at this time; volume stratification is sufficient, per HSCRC review of MPR analysis.
- ▶ Re-visit flu season impact once performance data is available; potentially, assign improvement points relative to concurrent National median (this would be a retrospective adjustment, as data availability allows).

**Final Staff Recommendation on the  
University of Maryland, Baltimore School of Medicine  
Request to Access HSCRC Confidential Patient Level Data**

**Health Services Cost Review Commission  
4160 Patterson Avenue, Baltimore, MD 21215**

**June 13, 2018**

This is a final recommendation for Commission consideration at the June 13, 2018 Public Commission Meeting.

## **SUMMARY STATEMENT**

The University of Maryland, Baltimore (UMB) School of Medicine is requesting to use a limited confidential dataset to examine the spatiotemporal relationship between asthma- related emergency department (ED) visits and hospitalizations with ground- level air pollution for Marylanders in relation to surrounding municipal waste incinerators.

## **OBJECTIVE**

The primary objective of this study is to construct models to assess the relationship between asthma hospital patients (emergency and inpatient) and Air Quality Index, with subsequent proximity analysis around the state's municipal waste incinerator sites and the ones that has recently closed. The limited dataset will include confidential variables such as dates of service and age. Investigators received approval from UMB Institutional Review Board (IRB) on April 27, 2017. These data will not be used to identify individual hospitals or patients. The data will be retained by UMB until January 31, 2020; at that time, the files will be destroyed and a Certification of Destruction will be submitted to the HSCRC.

## **REQUEST FOR ACCESS TO THE CONFIDENTIAL PATIENT LEVEL DATA**

All requests for Confidential Data are reviewed by the Health Services Cost Review Commission Confidential Data Review Committee. The role of the Review Committee is to review applications and make recommendations to the Commission at its monthly public meeting. Applicants requesting access to the confidential data must demonstrate:

1. The proposed study/ research is in the public interest;
2. The study/ research design is sound from a technical perspective;
3. The organization is credible;
4. The organization is in full compliance with HIPAA, the Privacy Act, Freedom Act, and all other state and federal laws and regulations, including Medicare regulations;
5. There are adequate data security procedures to ensure protection of patient confidentiality.

The independent Confidential Data Review Committee, comprised of representatives from HSCRC staff, the Maryland Department of Health ("MDH"), The Hilltop Institute at the University of Maryland Baltimore County (UMBC) and the Department of Health and Human Services (HHS) Biomedical Advanced Research and Development Authority (BARDA), reviewed the application to ensure it meets the above minimum requirements as outlined in the application form.

The Confidential Review Committee unanimously agreed to recommend access to the confidential limited data set. As a final step in the evaluation process, the applicant will be required to file annual progress reports to the Commission, detailing any changes in goals or design of project, any changes in data handling procedures, work progress, and unanticipated events related to the confidentiality of the data. Additionally, the requester will submit to HSCRC a copy of the final report for review prior to public release.

## **STAFF RECOMMENDATIONS**

1. HSCRC staff recommends that the request for the limited inpatient and outpatient confidential data files for Calendar Year 2013 through Calendar Year 2017 be approved.
2. This access will be limited to identifiable data for subjects enrolled in the research study.

# **Final Recommendations on the Update Factors for FY 2019**

June 13, 2018

Health Services Cost Review Commission  
4160 Patterson Avenue  
Baltimore, Maryland 21215  
(410) 764-2605  
FAX: (410) 358-6217

This document reflects the Final Recommendation on the Update Factors for FY 2019.

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## LIST OF ABBREVIATIONS

ACA	Affordable Care Act
ACO	Accountable Care Organization
CMS	Centers for Medicare & Medicaid Services
CY	Calendar year
DSH	Disproportionate Share Hospital
FFS	Fee-for-service
FFY	Federal fiscal year, refers to the period of October 1 through September 30
FY	Fiscal year
GBR	Global Budget Revenue
HSCRC	Health Services Cost Review Commission
JHHS	Johns Hopkins Health System
MACRA	Medicare Access and Chip Reauthorization Act
MDPCP	Maryland Primary Care Program
MHA	The Maryland Hospital Association
MPA	Medicare Performance Adjustment
PAU	Potentially avoidable utilization
QBR	Quality Based Reimbursement
RY	Rate year, which is July1 through June 30 of each year
TCOC	Total Cost of Care
UCC	Uncompensated care

## CHANGES FROM DRAFT TO FINAL

This final recommendation adjusts the draft recommendation to include amounts for QBR, estimated to be -0.38 percent, and the oncology drug adjustment, estimated to be 0.20 percent. The total net value of these adjustments is -0.18 percent and is reflected in Table 2 on page 5. This recommendation also includes contract language relating to shifts to unregulated on page 9, staff responses to stakeholder input on page 17, and an overview on preparing for the Total Cost of Care Model on page 22, which begins on January 1, 2019. Staff has indicated changes to the draft by highlighting these areas in yellow.

## INTRODUCTION AND BACKGROUND

The Maryland Health Services Cost Review Commission (HSCRC or Commission) has been setting hospital payment rates for all payers since 1977. As part of this process, the HSCRC updates hospitals' rates and approved revenues on July 1 of each year to account for factors such as inflation, policy related adjustments, other adjustments related to performance, and settlements from the prior year.

On January 1, 2014, the Centers for Medicare & Medicaid Services (CMS) approved the implementation of a new All-Payer Model in Maryland. The All-Payer Model aims to promote better care, better health, and lower costs for all Maryland patients. In contrast to Maryland's previous Medicare waiver that focused on controlling increases in Medicare inpatient payments per case, the All-Payer Model (Model) focuses on controlling increases in total hospital revenue per capita. The Model established a cumulative annual limit on per capita revenue growth of 3.58 percent and a Medicare savings target of \$330 million over the five-year Model period.

In order to meet the requirements of the All-Payer Model and assure that the annual update will not result in a revenue increase beyond the 3.58 percent limit, the update process needs to account for all sources of hospital revenue that will contribute to the growth of total Maryland hospital revenues for Maryland residents. In addition, the HSCRC needs to consider the effects of the update on the Model's \$330 million Medicare savings requirement and the total hospital revenue that is set at risk for quality-based programs. While rates and global budgets are approved on a fiscal year basis, the All-Payer Model revenue limits and Medicare savings are determined on a calendar year basis. Therefore, the HSCRC must account for both calendar year and fiscal year revenues when establishing the fiscal year updates.

It is important to note that the proposed update incorporates both price and volume adjustments for revenues under global budgets. Thus, the proposed update should not be compared to a rate update, which does not control for volume changes. It is also important to view the revenue updates in the framework of gross and net revenue. Specially, beginning in calendar year 2014, the expansion of Medicaid and other Affordable Care Act enrollment has reduced uncompensated care and in response the State has reduced several related hospital assessments. The revenue reductions for uncompensated care and associated assessment reductions decrease gross revenues, but they do not decrease net revenues. Therefore, the net revenue increases are higher than gross revenue increases during these periods.



For rate year (RY) 2019, there are two categories of hospital revenue:

1. Hospitals under Global Budget Revenues, which are under the HSCRC’s full rate-setting authority.
2. Hospital revenues for which the HSCRC sets the rates paid by non-governmental payers and purchasers, but where CMS has not waived Medicare's rate-setting authority to Maryland and, thus, Medicare does not pay on the basis of those rates. This includes psychiatric hospitals and Mount Washington Pediatric Hospital.

The purpose of this report is to present analyses and make recommendations for the update factors for RY 2019 for global revenues and non-global revenues.

## ASSESSMENTS

### Overview of Final Update Factors Recommendations

As described in detail below, for RY 2019, HSCRC staff is proposing a final update of 1.62 percent per capita for global revenues and a final update of 1.77 percent for non-global revenues.

### Calculation of the Inflation/Trend Adjustment for Global and Non-Global Revenues

The calculation of the inflation/trend adjustment to Global Revenues and Non-Global Revenues, including psychiatric hospitals and Mt. Washington Pediatrics, starts by using the gross blended statistic of 2.57 percent growth<sup>1</sup>, which was derived by combining 91.20 percent of Global Insight’s Fourth Quarter 2017 market basket growth of 2.70 percent with 8.80 percent of the capital growth estimate of 1.20 percent, calculating to 2.57 percent. The proposed inflation/trend adjustment follows:

**Table 1. RY 2019 Proposed Inflation/Trend Adjustment**

	<b>Global Revenues</b>	<b>Psych &amp; Mt. Washington</b>
Proposed Base Update (Gross Inflation)	2.57%	2.57%
Productivity Adjustment		-0.80%
Proposed Update	2.57%	1.77%

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<sup>1</sup> Any inflation increase published in Global Insights 2018 First Quarter data and used in this recommendation will have a forecasting error applied.

For psychiatric hospitals and Mt. Washington Pediatric Hospital, staff proposes using a productivity adjustment of 0.80 percent. When subtracted from the gross blended 2.57 percent growth, this results in a proposed update of 1.77 percent. The proposed Medicare rule for the federal FY 2019 Inpatient Psychiatric Facilities rate update applies a 0.80 percent reduction for productivity and a 0.75 percent reduction for ACA savings mandate to a market basket update of 2.80 percent, resulting in a proposed payment update of 1.25 percent. HSCRC staff has proposed to take the Medicare productivity update into account, as staff have done in the past. However, staff will eliminate the application of the ACA adjustment when calculating the update used for payers other than Medicare under HSCRC's rate setting authority. Additionally, HSCRC staff note that these hospitals get a volume adjustment, rather than a population adjustment. Staff are currently working on implementing quality measures for these hospitals in future rate years.

### **Summary of Other Policies Impacting RY 2019 Revenues**

The inflation/trend adjustment is just one component of the adjustments to hospital global budgets for RY 2019. In considering the system-wide update for the hospital global budgets under the All-Payer Model, HSCRC staff sought to achieve balance among the following conditions: 1) meeting the requirements of the All-Payer Model agreement; 2) providing hospitals with the necessary resources to keep pace with changes in inflation and demographic changes; 3) ensuring that hospitals have adequate resources to invest in the care coordination and population health strategies necessary for long-term success under the All-Payer Model; and 4) incorporating quality performance programs.

Table 2 summarizes the net impact of the HSCRC staff's current proposals for inflation, volume, Potentially Avoidable Utilization (PAU) savings, uncompensated care, and other adjustments on global revenues. The proposed adjustments provide for an estimated net revenue growth of 2.63 percent and per capita growth of 2.16 percent for RY 2019, before accounting for reductions in UCC and assessments. After accounting for those factors, the revenue growth is estimated at 2.08 percent with a corresponding per capita growth of 1.62 percent for RY 2019. As discussed below in this report, some of the financial tests under the All-Payer Model Agreement are made on a calendar year basis. Since several fiscal year updates occur at the midpoint rather than at the beginning of the year, Table 2 provides subtotals for update percentages through December 31 to facilitate the calculation of calendar year tests. Descriptions of each step and the associated policy considerations are explained in the text following the table:

**Table 2. Net Impact of Adjustments on Hospital Global Revenues, RY 2019**

Balanced Update Model for Discussion		
<u>Components of Revenue Change Linked to Hospital Cost Drivers/Performance</u>		
		Weighted Allowance
Adjustment for Inflation (this includes 2.4% for wages)		2.26%
- Total Drug Cost Inflation for All Hospitals*		0.31%
<b>Gross Inflation Allowance</b>	<b>A</b>	<b>2.57%</b>
Care Coordination		
-Rising Risk With Community Based Providers		
-Complex Patients With Regional Partnerships & Community Partners		
-Long Term Care & Post Acute	<b>B</b>	
<b>Adjustment for Volume</b>		
-Demographic Adjustment (0.46%)		
-Transfers		
-Drug Population/Utilization		
<b>Total Adjustment for Volume</b>	<b>C</b>	<b>0.46%</b>
<b>Other adjustments (positive and negative)</b>		
- Set Aside for Unknown Adjustments	D	0.25%
- Categoricals (net amount for Hopkins/UMMC: 0.23%)	E	0.23%
-Reversal of one-time adjustments for drugs	F =	0.00%
<b>Net Other Adjustments</b>	<b>G = Sum of D thru F</b>	<b>0.48%</b>
<b>Quality and PAU Savings</b>		
-Reverse prior year's PAU savings reduction	H	1.45%
-PAU Savings	I	-1.75%
-Reversal of prior year quality incentives	J	-0.25%
-QBR, MHAC, Readmissions		
-Positive incentives & Negative scaling adjustments	K	-0.15%
<b>Net Quality and PAU Savings</b>	<b>L = Sum of H thru K</b>	<b>-0.70%</b>
<b>Total Update First Half of Fiscal Year 19</b>		
Net increase attributable to hospitals	M = Sum of A + B + C + G + L	<b>2.81%</b>
Per Capita First Half of Fiscal Year (July - December)	N = (1+M)/(1+0.46%)	<b>2.33%</b>
<b>Adjustments in Second Half of Fiscal Year 19</b>		
-Oncology Drug Adjustment	O	0.20%
-QBR	P	-0.38%
<b>Total Adjustments in Second Half of Fiscal Year 19</b>	<b>Q = O+P</b>	<b>-0.18%</b>
<b>Total Update Full Fiscal Year 19</b>		
Net increase attributable to hospital for Fiscal Year	R = M + Q	<b>2.63%</b>
Per Capita Fiscal Year	S = (1+R)/(1+0.46%)	<b>2.16%</b>
<u>Components of Revenue Offsets with Neutral Impact on Hospital Financial Statements</u>		
-Uncompensated care reduction, net of differential	T	-0.35%
-Deficit Assessment	U	-0.19%
Net decreases	V = T + U	<b>-0.54%</b>
<b>Total Update First Half of Fiscal Year 19</b>		
Revenue growth, net of offsets	W = M + V	<b>2.26%</b>
Per Capita Revenue Growth First Half of Fiscal Year	X = (1+W)/(1+0.46%)	<b>1.79%</b>
<b>Total Update Full Fiscal Year 19</b>		
Revenue growth, net of offsets	Y = S + V	<b>2.08%</b>
Per Capita Fiscal Year	Z = (1+Y)/(1+0.46%)	<b>1.62%</b>

\* Provided Based on proportion of drug cost to total cost (drug index 5.3% X 5.9% national weight)

Beginning in RY 2017, the HSCRC split the approved revenue for the year into two targets, a mid-year target and a year-end target. Through this process, the HSCRC deferred a portion of the update from one calendar year to the next. This deferral was meant to address a particularly low federal Medicare update for FFY 2017, and also better matched the historic volume patterns incurred by hospitals, with higher volumes through the winter months of January through March. This revenue split more accurately matched historical volumes, and therefore the HSCRC staff plans to continue this split. The staff will apply 49.73 percent of the Total Approved Revenue to determine the mid-year target and the remainder of revenue will be applied to the year-end target. Of note, there are a few hospitals that do not follow this seasonal pattern, particularly Atlantic General Hospital. Thus, HSCRC staff will adjust the revenue split to accommodate their normal seasonality.

### *Central Components of Revenue Change Linked to Hospital Cost Drivers/Performance*

HSCRC staff accounted for a number of factors that are central provisions to the update process and are linked to hospital costs and performance. These include:

- **Adjustment for Inflation:** As described above, the inflation factor uses the gross blended statistic of 2.57 percent. The gross inflation allowance is calculated using Global Insight's Fourth Quarter 2017 market basket growth of 2.70 percent with 8.80 percent of the capital growth 1.20 percent estimate. A portion of the 2.57 inflation allowance (0.31 percent) will be allocated to hospitals based on each hospital's proportion of drug costs to total costs in order to accurately provide revenues for increases in drug prices. This drug cost adjustment is further discussed below.
- **Adjustments for Volume:** Staff proposes a 0.46 percent adjustment that is equal to the Maryland Department of Planning's estimate of population growth for CY 2018.<sup>2</sup> Hospital-specific adjustments will vary based on changes in the demographics of each hospital's service area. In the past, a portion of the adjustment was set aside to account for growth in highly specialized services at Johns Hopkins Hospital and University of Maryland Medical Center. Several workgroup members suggested funding these increases through avoidable utilization reductions, rather than the demographic adjustment. For RY 2019, the staff are proposing recognizing the full value of the 0.46 percent growth for the demographic adjustment to hospitals and accounting categoricals cost separately in the formulation of the revenue increase. The demographic adjustment has been criticized for providing revenue increases to hospitals that are experiencing volume decreases. The HSCRC staff is working to analyze alternative approaches, but the analysis will take time and require stakeholder and Commissioner input. There also is a need for improved outpatient volume measures for cycle billed services and expanded measures for avoidable and unnecessary utilization. The HSCRC staff is

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<sup>2</sup> See <http://planning.maryland.gov/msdc/>.

actively working on improving outpatient volume measures. HSCRC staff has also identified a need for better drug case-mix data submissions from hospitals to improve the accuracy when recognizing volume changes of drugs utilized. These core measurement improvements are building blocks necessary to improve policy analysis and demographic adjustment changes while improving efficiency comparisons among hospitals and other delivery settings. Also, with ICD-10 conversion and electronic medical record conversions mostly complete, case-mix and volume measurements are expected to become more stable.

- **Rising Cost of New Outpatient Drugs:** The rising cost of drugs, particularly of new physician-administered drugs in the outpatient setting, continues to be a growing concern among hospitals, payers, and consumers. Not all hospitals provide these services and some hospitals have a much larger proportion of costs allocated. To address this situation, staff recommends earmarking 0.31 percent of the inflation allowance to fund increases in the cost of drugs and provide this allowance based on the portion of total hospital costs that were comprised of drug costs in RY 2017.

In addition to the 0.31 drug inflation allowance, this recommendation also addresses high cost oncology drugs. In RY 2017, HSCRC initiated a volume adjustment for growth in high cost oncology drugs. The adjustment for growth between RY 2015 and RY 2016 was made utilizing information provided in a supplemental report provided by the hospitals for the top 80 percent of these outpatient medications. Half of the estimated cost changes due to volume were recognized as a one-time adjustment and half were recognized as a permanent adjustment. On July 1 2017, hospitals were provided a prospective estimate to account for potential volume changes in RY 2017 over RY 2016 while awaiting the supplemental reporting results. A true up of the estimate was made with the RY 2018 mid-year adjustments based on the supplemental reports provided by hospitals.

For RY 2019, as a result of their experience adjusting the estimates to the actual reports, staff plans to eliminate the prospective volume estimate for these high cost drugs. Staff is also proposing accelerating the due date for the supplemental drug report and they are meeting with industry representatives and experts to evaluate the potential to make just-in-time adjustments for emerging drugs. Staff will make the outpatient high-cost drug volume adjustment for RY 2018 over RY 2017 with the mid-year adjustments for RY 2019.

Industry briefs suggest that there will be substantial increases in oncology drug costs for RY 2019. There are several drugs with expected introductions or new indications for use. Staff is expecting to get improved claims data drug information in October. By mid-year, staff will determine whether the improved information can be used to make adjustments for a very limited set of new oncology drugs. After additional consultations and calculations, staff will provide an allowance in the second half of RY 2019 for increases in costs related to net volume growth of high cost oncology

medications for RY 2018 over RY 2017. Staff will also potentially provide an adjustment for emerging medications, if warranted. Based on early estimates contained in industry briefs, staff is utilizing an estimate of 0.20 percent to calculate the overall RY 2019 update (for further discussion, see Supplemental Report Information).

- **Categoricals:** At the January commission meeting, Johns Hopkins Hospital and University of Maryland Medical Center made a presentation regarding new and expensive inpatient therapies for cancer and spinal muscular atrophy. The HSCRC staff has been working to develop an approach to provide a revenue adjustment for these expensive therapies together with adjustments for existing categorical cases (transplants, cancer research cases). HSCRC staff has been provided a wide range of potential volume estimates for these services. To create a fixed pool of funds for these services, staff proposed a set aside of a one percent revenue adjustment for these two academic medical centers for RY 2019. While this adjustment will increase the permanent base revenue of these two institutions for RY 2019 and beyond, the Commission will need to deliberate how to fund these types of services in the future. This approach applies only to RY 2019, and there are certain conditions that must be met to receive this funding. The Commission approved a set of conditions for Johns Hopkins Hospital at the June Commission meeting. Discussions with University of Maryland Medical Center are still underway.
- **QBR Adjustment:** Because the Quality Based Reimbursement (QBR) adjustment data comes from CMS, there is a delay in the calculation of this adjustment. This adjustment is expected to be approximately -0.38 percent, based on the changes in Commission policy and preliminary modeling. This adjustment will be made in the second half of RY 2019.
- **Set-Aside for Unforeseen Adjustments:** Staff recommends a 0.25 percent set-aside to fund unforeseen adjustments during the year. Although the actual unforeseen adjustments in RY 2018 were above this amount, staff's estimate of the high cost drug volume adjustment was excessive and, as a result, the revenue growth remained on target for the year. It is important to note that CMS's final regulations lowered its update by approximately 0.60 percent for the federal fiscal year that began in October 2017 relative to its initial proposal. HSCRC did not lower hospitals' revenue budgets when this occurred. Fortunately, high cost drug volume increases came in lower than expected and, as a result, helped to offset the lower federal inflation provision.
- **Reversal of the Prior Year's PAU Savings Reduction and Quality Incentives:** The total RY 2018 PAU savings and quality adjustments are restored to the base for RY 2019, with new adjustments to reflect the PAU savings reduction and quality incentives for RY 2018.
- **PAU Savings Reduction and Quality Scaling Adjustments<sup>3</sup>:** The RY 2019 PAU savings will be continued, and an additional 0.30 percent savings is recommended for

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<sup>3</sup> The RY 19 MHAC and QBR penalties are significantly higher than the RY 18 penalties because the scale was modified to use full distribution of scores. Furthermore for QBR the mortality benchmark increased in RY19 and

RY 2019. Staff have provided final figures for both positive and negative quality incentive programs.

### **Central Components of Revenue Offsets with Neutral Impact on Hospital Financial Statements**

In addition to the central provisions that are linked to hospital costs and performance, HSCRC staff also considered revenue offsets with neutral impact on hospital financial statements. These include:

- **Uncompensated Care (UCC) Reduction:** The proposed uncompensated care reduction for FY 2019 will be -0.35 percent. The amount in rates was 4.51 percent in RY 2018, and the proposed amount for RY 2019 is 4.16 percent.
- **Deficit Assessment:** The legislature reduced the deficit assessment by \$30 million in RY 2019, as a result, this line item is -0.19 percent.

### **Additional Revenue Variables**

In addition to these central provisions, there are additional variables that the HSCRC considers, as mentioned in Table 2. These additional variables include one-time adjustments, revenue and rate compliance adjustments and price leveling of revenue adjustments to account for annualization of rate and revenue changes made in the prior year.

### **Shifts to Unregulated**

A growing focus in Maryland continues to be on the total cost of care. Global budgets must be adjusted for shifts from regulated to unregulated settings to prevent double payment for the services and dis-savings. Adjustments related to shifts, whether to related or unrelated entities, must be made in a timely manner. The GBR agreements that apply to each hospital clearly anticipate revenue reductions when services are shifted and require timely reporting to the HSCRC so that adjustments may occur. In order to ensure better reporting and facilitate disclosure, staff is proposing to withhold 0.50 percent of a hospital's total update if the hospital fails to submit a properly executed disclosure. The applicable GBR agreement provisions are provided in the following paragraphs below.

Section IV.B.3a. Of the Global Budget Agreement states the following:

*The HSCRC and the Hospital recognize that some services may be offered more effectively in an unregulated setting. When services covered by the GBR model are moved to an unregulated setting, the HSCRC staff will calculate and apply a reduction to the Hospital's Approved*

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this resulted in greater penalties. For RRIP, there was an increase in penalties because improvement in readmissions slowed down. There were 22 hospitals that had increases in their case-mix adjusted readmission rate.



*Regulated Revenue. At a minimum, the reduction will ensure that the shift provides a savings to the public and Medicare after taking into consideration the payment amounts likely to be made for the same services in an unregulated setting.*

Furthermore, section VI.3 of the Global Budget Agreement states the following:

*Significant changes in the health care delivery system in the Hospital's Primary and Secondary Service Areas could influence the appropriateness of the Approved Regulated Revenue established for the Hospital under this Agreement. Therefore, the Hospital agrees to declare and describe, in Appendix G, any financial interest (or control) it holds in other hospitals or entities that provide services, including non-hospital services, in the Hospital's Primary and Secondary Service Areas, as of the Effective Date of this Agreement.*

*In addition, the Hospital agrees to inform the HSCRC at least thirty (30) days in advance, in writing, or at the earliest practicable time thereafter, of any acquisitions or divestitures which it undertakes regarding such interests.<sup>4</sup> The HSCRC may request data from the Hospital, on a periodic or ongoing basis, regarding the utilization of the services provided by such related entities, to ensure that the Hospital complies with the GBR constraint through better management of its existing regulated services and not by moving services from the HSCRC-regulated sector to unregulated sectors of the hospital or non-hospital environment in ways that do not comport with the objectives of the GBR model, the Three Part Aim and the final contract between CMMI and the State of Maryland.*

*The Hospital will provide [two] annual disclosure and certification report, regarding changes in the services it provides. [One disclosure report includes initiation of ventures outside the hospital which may result in a shift in volumes. The other disclosure report requires a reporting of any shift in volumes to unregulated settings, whether initiated by the hospital or another party] The initial report[s] [were ] due upon signing of [the GBR] Agreement and additional reports will due on an annual basis within 30 days after the end of each subsequent Rate Year.*

Hospitals have expressed some confusion regarding shifts to unregulated settings. In order to provide additional guidance to hospitals, HSCRC staff recommend that a sub-group of the Payment Models Workgroup meet to outline and provide additional guidance regarding reporting and adjustments for shifts to unregulated settings.

## Consideration of All-Payer Model Agreement Requirements

As described above, the staff proposal increases the resources available to hospitals to account for rising inflation, population changes, and other factors, while providing adjustments for

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<sup>4</sup> This would include the purchase or divestiture of physician practices, joint-venture arrangements with other providers to establish unregulated services that duplicate or could substitute for regulated services currently provided by the Hospital (such as, but not limited to, unregulated clinic, urgent care, or ambulatory surgery services), or other non-hospital services.



performance under quality programs. Additionally, based on staff calculations, the proposed update falls within the financial parameters of the All-Payer Model agreement requirements. The staff's considerations in regards to the All-Payer Model agreement requirements are described in detail below.

**All-Payer Financial Test**

The proposed balanced update keeps Maryland within the constraints of the Model's all-payer revenue test. Maryland's agreement with CMS limits the annual growth rate for all-payer per capita revenues for Maryland residents at 3.58 percent. Compliance with this test is measured by comparing the cumulative growth in revenues from the CY 2013 base period to a ceiling calculated assuming an annual per capita growth of 3.58 percent. To evaluate the impact of the recommended update factor on the State's compliance with the all-payer revenue test, staff calculated the maximum cumulative growth that is allowable through the end of CY 2019. As shown in Table 3, cumulative growth of 23.50 percent is permitted through CY 2019.

**Table 3. Calculation of the Cumulative Allowable Growth in All-Payer per Capita Revenue for Maryland Residents**

	CY 2014 A	CY 2015 B	CY 2016 C	CY 2017 D	CY 2018 E	CY 2019 F	Cumulative Growth $G = (1+A)*(1+B)*(1+C)*(1+D)*(1+E)*(1+F)$
<b>Calculation of Revenue Cap</b>	3.58%	3.58%	3.58%	3.58%	3.58%	3.58%	23.50%

Table 4 below shows the allowed all-payer growth in gross revenues. Staff removed adjustments due to reductions in uncompensated care (UCC) and assessments that do not affect the hospitals' bottom lines. Staff projects that the actual cumulative growth, excluding changes in uncompensated care and assessments, through FY 2019 is 18.07 percent. The actual and proposed revenue growth is well below the maximum levels.

**Table 4. Evaluation of the Proposed Update's Projected Growth and Compliance with the All-Payer Gross Revenue Test**

	Actual Jan -June 2014 A	Actual FY 2015 B	Actual FY 2016 C	Actual FY 2017 D	Staff Est. FY 2018 E	Proposed FY 2019 F	Cumulative Growth $G = (1+A)*(1+B)*(1+C)*(1+D)*(1+E)*(1+F)$
<b>Maximum Gross Revenue Growth Allowance</b>	2.13%	4.21%	4.06%	3.95%	4.06%	4.06%	24.66%
<b>Revenue Growth for Period</b>	0.90%	2.51%	2.47%	2.20%	2.62%	2.26%	13.67%
<b>Savings from UCC &amp; Assessment Declines that do not Adversely Impact Hospital Bottom Line</b>		1.09%	1.40%	0.69%	0.18%	0.54%	3.96%
<b>Revenue Growth with UCC &amp; Assessment Savings Removed</b>	0.90%	3.60%	3.87%	2.89%	2.80%	2.81%	18.07%
<b>Revenue Difference from Growth Limit</b>							6.59%

“Maximum Gross Revenue Growth Allowance” includes the following population estimates: FY17/CY16 = 0.36%;  
FY18/CY17 = 0.46%

### **Medicare Financial Test**

The proposed balanced update also keeps Maryland within the constraints of the Model’s Medicare savings test. This second test requires the Model to generate \$330 million in Medicare fee-for-service (FFS) savings in hospital expenditures over five years. The savings for the five-year period were calculated assuming that Medicare FFS hospital costs per Maryland beneficiary would grow about 0.50 percent per year slower than the Medicare FFS costs per beneficiary nationally after the first performance year (CY 2014).

Performance years one through four (CY 2014 through CY 2017) of the Model generated \$916 million in cumulative hospital savings. Under these calculations, the cumulative hospital savings are ahead of the required savings of \$330 million.

However, there continues to be a shift toward greater utilization of non-hospital services in the State, relative to national rates of growth. When calculating savings relative to total cost of care, the four-year (CY 2014-CY2017) cumulative savings estimate is \$599 million, still well above the required savings level. Maryland’s All-Payer Model Agreement with CMS contains requirements relative to the total cost of care, which includes non-hospital cost increases. The purpose is to ensure that cost increases outside of the hospital setting do not undermine the Medicare hospital savings that result from the Model implementation. If Maryland exceeds the national total cost of care growth rate by more than 1.00 percent in any year, or exceeds the national total cost of care growth rate in two consecutive years, Maryland is required to provide an explanation of the increase and potentially provide steps for corrective action.

While cumulative savings are above the required level, staff has calculated that the year over year total cost of care growth was above the national growth rate for Medicare for CY 2017 over CY 2016. This annual excess growth was caused by increases in Maryland’s non-hospital Part B services, which were not offset by sufficient hospital savings. As a result, Maryland must set out to ensure that growth does not exceed the national total cost of care growth for Medicare in CY 2018. A commitment to continue the success of the first four years is critical to building long-term support for Maryland’s Model.

## **Consideration of National Cost Figures**

### **Medicare’s Proposed National Rate Update for FFY 2019**

CMS published proposed updates to the federal Medicare inpatient rates for FFY 2019 in the Federal Register in late-April 2018.<sup>5</sup> These proposed updates are summarized in Table 5 below;

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<sup>5</sup> See <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/FY2019-IPPS-Proposed-Rule-Home-Page.html>.

they will not be finalized for several months and are subject to change. In the proposed rule, CMS would increase rates by approximately 3.05 percent in FFY 2019 compared to FFY 2018, after accounting for inflation, a disproportionate share increase, and other adjustments required by law. The proposed rule includes an initial market basket update of 2.80 percent for those hospitals that were meaningful users of electronic health records and for those hospitals that submitted data on quality measures, less a productivity cut of 0.80 percent and an additional market basket cut of 0.75 percent, as mandated by the Affordable Care Act (ACA). This proposed update also reflects a proposed 0.50 percentage point increase for documentation and coding required by the American Taxpayer Relief Act of 2012. Disproportionate share payment changes resulted in an increase of approximately 1.30 percent from FFY 2018.

**Table 5. Medicare’s Proposed Rate Updates for FFY 2019**

	Inpatient	Outpatient
<b>Base Update</b>		
Market Basket	2.80%	2.80%
Productivity	-0.80%	-0.80%
ACA	-0.75%	-0.75%
Coding	0.50%	
	1.75%	1.25%
<b>Other Changes</b>		
DSH	1.30%	0.00%
Other Changes	0.00%	0.00%
	1.65%	0.00%
	3.05%	1.25%

Applying the inpatient assumptions about market basket, productivity, and mandatory ACA outpatient savings, staff estimates a 1.25 percent Medicare outpatient update effective January 2019. This estimate is pending any adjustments that may be made when the final update to the federal Medicare outpatient rates is published.

**Meeting Medicare Savings Requirements and Total Cost of Care Guardrails**

For the past four updates, Maryland obtained calendar year Medicare fee-for-service growth estimates from the CMS Office of the Actuary. Staff then compared Medicare growth estimates to the all-payer spending limits. During CY 2014-CY 2017, all-payer growth outpaced Medicare growth on a per capita basis and in the updates staff adjusted the all-payer growth limit using the difference in Medicare and all-payer per capita growth to estimate the implied limit for Medicare. Staff also incorporated a targeted Medicare savings of 0.50 percent in hospital

payment growth relative to the national growth rate, designed to provide at least \$330 million in cumulative savings over a five-year period. The CMS Office of the Actuary provided national Medicare fee-for-service per capita hospital spending increase estimates of 2.10 percent for CY 2018 and of 2.00 percent for total cost of care (Parts A and B). The updates provided by the Office of the Actuary did not include a provision for DSH in the amount of 1.30 percent that is included in the federal update and begins on October 1. Due the federal update beginning with three months left in the calendar year, staff have added 25 percent of the DSH cost to the CY 2018 projections. This was calculated by taking 25 percent of the 1.30 percent and multiplying that by the inpatient percentage of total hospital payments, approximately 71 percent. This calculation results in a revised increase of 2.32 percent for hospital spending. Staff also calculated a revised increase for total cost of care by taking the 0.23 percent increase from the hospital projection and multiplying that by the hospital percentage of total cost of care of approximately 50 percent. This calculation produced a 0.12 percent increase which was added to the total cost of care projection resulting in a revised estimate of 2.13 percent. These revised spending projections were used by staff to estimate desired CY 2018 Medicare savings (Tables 6A and 6B).

For the purposes of evaluating the maximum all-payer spending growth that will allow Maryland to meet the per capita Medicare FFS target, the Medicare target must be translated to an all-payer growth limit. There are several ways to calculate the difference between Medicare FFS and all-payer growth rates using recent data trends. A consultant to CareFirst developed a “conservative difference statistic’ that reflected the historical increase in Medicare per capita spending in Maryland relative to all-payer per capita spending growth. CareFirst has updated this statistic each year using data provided by HSCRC staff. For the FY 2019 update, CareFirst and HSCRC staff calculated a difference of 0.86 percent, which used a four-year average difference between Maryland Medicare and all-payer claims reduced by the average annual absolute variance.

A feature of the current hospital Model that will continue in the Total Cost of Care All-Payer Model, which begins January 1, 2019, is that Maryland Medicare total cost of care cannot exceed national Medicare total cost of care growth by one percent in any single year and cannot exceed the national growth by any amount in two consecutive years; these are known as ‘total cost of care guardrails.’ Maryland ended the year above Medicare national growth in CY 2017. In an effort to ensure Maryland that does not exceed the national Medicare growth rate in CY 2018, staff modeled the impact of excess non-hospital growth on the maximum hospital update that could be provided. This calculation assesses Medicare growth in unregulated settings and factors this excess growth into allowable hospital rate increases for RY 2019. Staff modeled two different estimates of excess growth. The first scenario uses a lower four-year average of non-hospital excess costs for Medicare Parts A and B, while the second scenario uses the actual non-hospital excess cost growth in 2017. While there is little room for error with the higher estimates of non-hospital cost growth, under either scenario the proposed hospital update would be expected to result in total cost of care growth within the guardrail requirements.

**Table 6A. Scenario 1 Maximum All-Payer Increase that will still produce the Desired FY 2019 Medicare Savings**

<b>Maximum Increase that Can Produce Medicare Savings</b>				
<b>Medicare</b>				
Medicare Growth (CY 2018 2.32%)	A	2.32%		
Savings Goal for FY 2019	B	0.00%		
Maximum growth rate that will achieve savings (A+B)	C	2.32%		
<b>Conversion to All-Payer</b>				
Actual statistic between Medicare and All-Payer		0.86%	<b>Recommendation:</b>	<b>Savings:</b>
Excess Growth for Non-Hospital Cost Relative to the Nation		-0.49%		
Net Difference Statistic Related to Total Cost of Care	D	0.37%		
Conversion to All-Payer growth per resident (1+C)*(1+D)-1	E	2.70%	2.20%	0.50%
Conversion to total All-Payer revenue growth (1+E)*(1+0.46%)-1	F	3.17%	2.67%	0.50%

**Table 6B. Scenario 2 Maximum All-Payer Increase that will still produce the Desired FY 2019 Medicare Savings**

<b>Maximum Increase that Can Produce Medicare Savings</b>				
<b>Medicare</b>				
Medicare Growth (CY 2018 2.32%)	A	2.32%		
Savings Goal for FY 2019	B	0.00%		
Maximum growth rate that will achieve savings (A+B)	C	2.32%		
<b>Conversion to All-Payer</b>				
Actual statistic between Medicare and All-Payer		0.86%	<b>Recommendation:</b>	<b>Savings:</b>
Excess Growth for Non-Hospital Cost Relative to the Nation		-0.95%		
Net Difference Statistic Related to Total Cost of Care	D	-0.09%		
Conversion to All-Payer growth per resident (1+C)*(1+D)-1	E	2.23%	2.20%	0.03%
Conversion to total All-Payer revenue growth (1+E)*(1+0.46%)-1	F	2.70%	2.67%	0.03%

Because the actual revenue resulting from updates in RY 2018 affect the CY 2018 results, staff must convert the recommended RY 2019 update to a calendar year growth estimate. Table 7 below shows the current revenue projections for CY 2018 to assist in estimating the impact of the recommended update factor together with the projected FY 2018 results. The overall growth from this table is used in Table 6A.

**Table 7. Estimated Position on Medicare Target**

<b>Estimated Position on Medicare Target</b>		
Actual Revenue CY 2017		17,056,291,338
<b>Step 1:</b>		
Approved GBR FY 2018		17,183,983,214
Actual Revenue 7/1/17-12/31/17		8,421,055,533
Projected Revenue 1/1/18-6/30/18	<b>A</b>	<b>8,762,927,681</b>
<b>Step 2:</b>		
Estimated Approved GBR FY 2019		17,572,853,817
Permanent Update		2.26%
<b>Step 3:</b>		
Estimated Revenue 7/1/18-12/31/18 (after 49.73% & seasonality)		8,738,980,203
Change in Hopkins Payback		10,000,000
	<b>B</b>	<b>8,748,980,203</b>
<b>Step 4:</b>		
<b>Estimated Revenue CY 2018</b>	<b>A+B</b>	<b>17,511,907,884</b>
Increase over CY 2017 Revenue		2.67%

Steps to explain Table 7 are described as below:

- Step 1: The table begins with the estimated global revenue for FY 2018 and actual revenue for the last six months for CY 2017 to calculate the projected revenue for the first six months of CY 2018 (i.e. the last six months of FY2018).
- Step 2: This step shows the estimated FY 2019 global budget revenue based on the information that staff have available to date. The permanent update over FY 2018 of 2.26 percent represents the portion of the RY 2019 update provided during the calendar year 2018, as shown in Table 2.
- Step 3: For this step, to determine the calendar year revenues, staff estimate the revenue for the first half of RY 2019 by applying the recommended mid-year split percentage of 49.73 percent to the estimated approved revenue for FY 2019 and hospital specific seasonality adjustments. An adjustment for the temporary rate adjustment for Johns Hopkins Hospital is added to revenues.
- Step 4: This step shows the resulting estimated revenue for CY 2018 and then calculates the increase over CY 2017 Revenue.

## Stakeholder Input

HSCRC staff worked with the Payment Models Workgroup to review and provide input on the proposed FY 2019 updates. Staff has received and reviewed comments from CareFirst, the Maryland Hospital Association, MedStar Health (Good Samaritan, Union Memorial, Montgomery, Harbor, and Franklin Square), Johns Hopkins Health System, Holy Cross Health, and Mount Washington Pediatrics. Stakeholder comments and staff responses are provided below.

**Comment:** CareFirst expressed concern that the proposed update may place the State at risk of exceeding total cost of care guardrails. CareFirst stated that Maryland has exceeded the nation in non-hospital growth every year since 2014 and believes it is imperative that staff reflect the increasing growth in non-hospital excess cost growth in its modeling, to ensure that the update provided does not place Maryland at risk of violating the total cost of care guardrail.

**Response:** Staff updated Table 6B to include a more conservative amount for non-hospital cost growth of 0.95 percent. Staff projected that the State will still meet the total cost of care growth limit guardrail requirements with higher non-hospital cost growth, although there is very little room for error with this higher non-hospital growth estimate.

The Maryland Hospital Association (MHA) and its member hospitals provided feedback on the draft recommendation. Staff has outlined MHA's concerns in addition to providing comments on each item below.

**Comment:** MHA believes that 0.23 percent revenue adjustment for Johns Hopkins Hospital and University of Maryland Medical Center shouldn't be funded through the annual payment update.

**Response:** Staff accounts for all estimated growth in revenue in determining whether it will meet the revenue growth limit and savings test. It would not be accurate to exclude a category of hospital revenue growth from the analysis.

**Comment:** The annual payment update should be increased by at least 0.50 percent. MHA expressed several reasons to support this statement.

**Response:** Staff does not agree with MHA's recommendation to increase the update factor. The RY 2018 update appears to be providing an increased level of regulated operating profits and staff believe the inflation factor provided for RY 2019 is reasonable. The PAU adjustment of -0.30 percent is far lower than the reductions to Medicare provided by CMS in the proposed federal Inpatient Prospective System update.

- i.* MHA has expressed that there is an additional cushion built into the growth projections and believes that the conservative estimates staff used to project growth are not needed. MHA made projections based on the first three months of the federal fiscal year (October 2017 – December 2017). **Response:** Staff is not willing to make projections on hospital spending based on three months of data.



- ii. MHA also expressed concern that the projections provided in the President's budget may be under-projected based on prior year's data. **Response:** Staff agrees that the actuals came in higher than the projections for the previous year. However, staff must use the estimates provided by the Office of the Actuary and has no basis to make additional projections based on those figures.
- iii. MHA also noted that the national IPPS proposed rule shows a rate payment update of 3.40 percent, which is 0.35 percent higher than the 3.05 percent shown in the draft recommendation. **Response:** Staff believes the additional growth of 0.35 percent reflects CMS's estimate of volume growth. Also, conversations with the Office of the Actuary indicate that modeling included all estimates except for the proposed change in the disproportionate share funding. Therefore, staff would not change its calculations even if the federal update were higher due to other miscellaneous estimates.
- iv. MHA stated in their letter, that Maryland is an all-payer state, yet it is limited by Medicare growth. **Response:** The All-Payer Model Agreement with CMS requires the State to perform under multiple tests. The HSCRC staff has recommended an update, which they believe balances the need to meet the requirements of the Agreement with CMS as well as providing for efficient cost growth due to inflation and other factors. Staff believes that the Potentially Avoidable Utilization (PAU) savings amount, which is proposed at an increment of 0.30 percent for RY 2019, is reasonable and appropriate in light of the requirements to achieve savings through quality improvements. There are no additional productivity subtractions that are input into the update, including the Affordable Care Act reduction of 0.75percent and the productivity reduction of 0.80percent that are built into the FFY 2019 proposed rule. Furthermore, the Commission provided an update for RY 2018 that resulted in higher year-over-year Medicare growth for CY 2017 over CY 2016 than the nation. It is important that Maryland not exceed the national Medicare growth rate two years in a row.
- v. MHA stated that the Medicare Performance Adjustment (MPA) is in effect and the incentives in place provide a cushion for Medicare total cost of care performance in 2018. **Response:** Staff does not agree that the MPA provides a cushion, but rather, is an incentive to help focus hospitals on total cost of care for beneficiaries they serve. Further, adjustments related to performance in 2018 will not be reflected until RY 2020. Staff will make sure to account for MPA adjustments when developing future estimates for the total cost of care guardrail test.
- vi. MHA also stated that the update does not fully account for expected service growth from an aging population and expressed concern that the update model is limited to statewide population growth. **Response:** HSCRC staff utilizes population growth statistics from the Maryland Department of Planning to determine population growth. This approach is consistent with the calculation



requirements under the Agreement with CMS. In addition, staff adjusts for high cost drug growth, categoricals cases (very high cost inpatient services concentrated in The Johns Hopkins Hospital and University of Maryland Medical Center) and actual population growth, which results in a larger adjustment for volume growth. For example, the final RY 2019 recommendation provides 0.46 percent for a volume adjustment. When drug cost estimates, (0.20 percent,) and categoricals, (0.23 percent) are included actual volume adjustments account for 0.89 percent of the total update, before accounting for reductions in avoidable utilization.

- vii. MHA expressed a concern that the shared savings has exceeded infrastructure investment funding. **Response:** Staff believes this is a very narrow view of the Model and does not provide a holistic view of the Model funds flow. Hospitals should provide funding from their own resources since they expect a return on investment and are permitted to keep the revenues from reducing PAUs, except for the portion that is reduced through the PAU savings adjustment. As stated earlier, the incremental adjustment for PAU savings in this year's update is -0.30 percent. The proposed rule for IPPS has taken a -0.80 percent cut for productivity and an additional -0.75 percent cut for the ACA. The adjustment for PAU savings built into the update is far less than the productivity reductions proposed for Medicare. Moreover, staff notes that while a PAU adjustment is required in order to comply with the Model Agreement, the hospital industry has been able in some measure to succeed in this test because of the reduction of uncompensated care, which was primarily due to the Medicaid expansion, the elimination of the Maryland Health Insurance Plan assessment, and the decreases in the Medicaid Deficit Assessment.
- viii. Another point that MHA expressed in their letter was an observation that the State has followed a pattern in past years, namely that the year following an unfavorable year the State tends to be favorable in regards to the total cost of care guardrail. **Response:** Staff does not believe that future projections can be based on the assumption that a past short-term cyclical observation will continue.
- ix. MHA expressed concern that the draft recommendation did not reflect the Quality Based Reimbursement adjustment. **Response:** Staff has included an estimate for QBR in the final recommendation.

**Comment:** MHA has stated that the productivity offset for Maryland's psychiatric and specialty hospitals should be eliminated, or at least reduced.

**Response:** Staff does not agree. Staff has not made a reduction for ACA similar to what occurs on the national landscape. Also, these specialty hospitals have very low use of drugs compared to the general acute hospitals, and, as a result, the inflation factor provided is higher than would be expected. Also, these hospitals are not restricted in their ability to derive additional revenues through volume growth.

In addition to the above points, MHA requested that staff provide support for several reconciliations and analyses. Staff shared these analyses with the Payment Model work group meeting on May 31, 2018 where stakeholder comments and concerns were discussed.

**Comment:** MedStar Health, including five of the seven community hospitals that make up the system, expressed concern that the overall update will vary among each hospital and some hospitals may receive updates below inflation, based on PAU savings, the demographic adjustment, and other factors. Each hospital expressed that the update should be increased by 0.50 percent to continue investments in the community and overcome the criticisms levied against current HSCRC methodologies. One reason to increase the update factor was the increased cost in nursing support.

**Response:** Many of the concerns raised have been already been addressed in the response to the MHA comments. Hospitals in areas of declining population and with high levels of avoidable utilization should expect to have updates that are lower than factor cost inflation, given their opportunities to control costs through the reduction of avoidable and unnecessary utilization. There are various opinions in the industry regarding retention of revenues for volume reductions, especially those that result from market shift or reductions unrelated to avoidable utilization. As noted above in the Central Components of Revenue Change, staff is working to analyze the volume policies including the demographic adjustment, market shift, and potentially avoidable utilization. Staff commit to work with the industry to enhance these adjustments. While it is not HSCRC practice to dictate how a hospital apportions its outlays, staff do believe that the inflationary increase of 2.40 percent built into the update factor for wages, together with the additional inflation provided in RY 2018, should help hospitals address needed wage increases consistent with national trends.

**Comment:** MedStar Health hospitals also expressed concern regarding HSCRC's mention of hospitals' contractual obligations to notify the HSCRC about movements of services from regulated to unregulated.

**Response:** Staff will be sure to work with the industry to provide additional guidance regarding the expectations and needs with respect to any shifts to an unregulated space, but notes that the GBR contracts clearly delineate the obligations of the hospital to notify the HSCRC about any shifts in volume from regulated to unregulated. HSCRC staff must make adjustments as needed to ensure that payers are not facing increased costs that could result if services shifted from the hospital to an unregulated setting did not result in decreased hospital revenues.

**Comment:** Johns Hopkins Health System (JHHS) comments solely focused the section of the draft recommendation dedicated to shifts to unregulated services. JHHS believes that while notification surrounding service shifts to unregulated is necessary for improving total cost of care in the state of Maryland, there needs to be a well formulated policy. JHHS suggest a policy should consider the following: clear process and timeline, incentives to move to a lower cost setting, and the factors that contributed to the shift. It was also stated that penalties should not be made for shifts outside of the hospitals control and retroactive adjustments should not be made.

**Response:** Staff notes that each hospital signed a global budget agreement that included language pertaining to shifts to unregulated settings. In addition, each hospital is required to submit an annual disclosure that includes any changes in these items from the previous year. One-time adjustments are necessary if staff finds that a hospital did not provide notification and money was left in the global budgets. If staff does not make one-time adjustments for undisclosed shifts, it would discourage hospitals from reporting shifts and result in excess billings to payers. In some instances, these excess billings could be a compliance problem. Staff believes it has the obligation to evaluate the reported shifts and make necessary adjustments.

Staff must still be notified timely when a hospital is aware of shifts that occur as the result of physician or payer decisions. The issue is not who is making the decision, but the need to eliminate duplicate payment for a service when it is covered under a global budget and is also being billed by another party. Staff agrees with the need to work with payers and providers to provide additional policy guidance.

**Comment:** Holy Cross Health expressed support for a higher update factor to include making investments in population health initiatives. Holy Cross also noted drug shortages are causing an increase in total drug costs and expressed the need for the rate system to fund pharmaceuticals.

**Response:** Staff appreciates the investments Holy Cross has made towards population health. Staff believes the proposed update factor is appropriate. The RY 2018 update provided increased profit levels and hospitals have additional opportunities to reduce costs through productivity improvements and reduced avoidable or unnecessary utilization. Through FY 2017, HSCRC has overfunded drug cost growth statewide through the inflation adjustment, together with the high cost drug volume adjustment. Staff will update the analysis for FY 2018, when the data is available, and consider additional policy adjustments as needed.

**Comment:** Mt. Washington Pediatric Hospital requested relief from the proposed update of 1.77 percent. Mt. Washington stated that offsetting inflation by the productivity adjustment increases overall statewide costs and detracts from the ability to continue to be a niche in the continuum of care in Maryland.

**Response:** As previously noted, staff believes the 1.77 percent proposed update is appropriate and notes that the non-acute hospitals are not subject to the volume limitations of the global budget hospitals.

## RECOMMENDATIONS

Based on the currently available data and the staff's analyses to date, the HSCRC staff provides the following final recommendations for the FY 2019 update factors.

For Global Budget Revenue Hospitals:

- a) Provide an overall increase of 2.08 percent for revenue (net of uncompensated care offset) and 1.62 percent per capita for hospitals under Global Budgets, as shown in Table

2. In addition, staff is proposing to split the approved revenue into two targets, a mid-year target and a year-end target. Staff will apply 49.73 percent of the Total Approved Revenue to determine the mid-year target and the remainder of revenue will be applied to the year-end target. Staff is aware that there are a few hospitals that do not follow this pattern of seasonality and will adjust the split accordingly.

- b) Allocate 0.31 percent of the total inflation allowance based on each hospital's proportion of drug cost to total cost to more equitably adjust hospitals' revenue budgets for increases in drug prices and high cost drugs. Continue to adjust for volume changes of high cost oncology drugs at the mid-year data point for RY 2018 over RY 2017. Evaluate the need for an additional adjustment for growth in high cost drugs during RY 2019.
- c) The Commission should continue to closely monitor performance targets for Medicare, including Medicare's growth in total cost of care and hospital care costs per beneficiary during the performance year. As always, the Commission has the authority to adjust rates as it deems necessary.
- d) Hospitals should submit, 30 days after the fiscal year, their annual disclosures of their GBR Agreements to disclose any shifts from regulated to unregulated and unregulated to regulated (Appendix F); as well as changes in financial interest, ownership, or control of hospital or non-hospital services within the service area (Appendix G). Failure to submit these disclosures will result in a holdback of 0.50 percent of a hospital's update for RY 2019. HSCRC should convene a sub-group to outline additional guidance to hospitals in reporting shifts to unregulated settings, as well as outlining the expectations for revenue adjustments.
- e) Continued refinements should be made to adjust revenues for volume changes in high-cost drugs. Hospitals must report shifts to unregulated settings to avoid duplicate billing. Data collection should be expedited and improved and external resources consulted in order to improve the timeliness and ease of adjustments.

Non-Global Revenues including psychiatric hospitals and Mt. Washington Pediatric Hospital:

- a) Provide an overall update of 1.77 percent by using a productivity adjustment of 0.80 percent from the inflation factor of 2.57 percent.
- b) Continue to focus on implementation of quality measures and value based programs for psychiatric facilities.

## **PREPARATION FOR THE TOTAL COST OF CARE MODEL EFFECTIVE JANUARY 1, 2019**

During May, 2018, Governor Hogan announced the federal approval of a ten-year Total Cost of Care Model, which builds on the existing All-Payer Model and moves beyond hospitals to address total cost of care for Medicare beneficiaries. The new Total Cost of Care Model will

require increased efforts to improve population health, enhance chronic condition management, and align efforts with physicians, nursing homes, and other parts of the system to increase patient-centered care. Hospitals will take on increased financial responsibility for performance through the Medicare Performance Adjustment.

The new Model will necessitate changes in the annual update and in the global revenue agreement. There are several considerations:

### ***Maryland Primary Care Program Care Management Fees***

The Maryland Primary Care Program (MDPCP) will be initiated in January 2019. Primary care physicians will receive care management fees for their Medicare patients when they participate in the voluntary program. During a start-up period, hospital utilization reductions may not be adequate to offset the increased care management fees. Under the current update formulation, growth in care management fees could result in a reduced hospital update. The Commission wishes to avoid this result because it might dampen enthusiasm for the MDPCP, which is important to the long term goal of improving chronic care and population health. As a result, staff recommends a supplemental resolution for Commission consideration. This resolution should state that:

1. Any adjustments to hospital payments necessary to ensure the State meets the annual savings targets of the Total Cost of Care Model as a result of the inclusion of MDPCP care management fees will not be effectuated on an all-payer basis, but only in a way that recaptures the Medicare costs resulting from the inclusion of the care management fees in the Medicare total cost of care calculation; and,
2. The HSCRC will advocate for additional funding sources to offset early start-up costs of the MDPCP that will help provide for the cost of care management fees in excess of Medicare savings achieved.

### ***Updated Hospital Contract***

The HSCRC will need to update the Global Budget Revenue agreements for the new Total Cost of Care Model and the alignment programs. There will be a contract amendment for the Medicare Performance Adjustment, effective July 1, 2018, which is necessary for MACRA eligibility in care redesign programs. The HSCRC staff also proposes to work with a sub-group of the Payment Models Workgroup to evaluate needed updates to the contract, in addition to the Medicare Performance Adjustment amendment. Staff will establish a schedule with the objective of completing a contract amendment effective July 1, 2018, with a full replacement contract to be put in place with an effective date of January 1, 2019.

### ***Changes to the Annual Update***

In order to drive success in achieving population health improvements and reducing avoidable and unnecessary utilization, new aggressive goals will need to be established. HSCRC should

consider how to adjust the inflation process to assure the adoption of aggressive goals (Bold Improvement Goals, BIG). Some portion of inflation (say 0.50 percent) could be set aside and only those hospitals adopting approved aggressive (BIG) improvement goals would be eligible for that portion of inflation. For example, one hospital could commit to a thirty percent reduction in COPD related admissions with interventions that start with early detection and prevention of COPD, disease and medication management supports, pulmonary rehabilitation, vaccines for pneumonia and flu, among others. Other hospitals might commit to reduced hospitalizations for sepsis, hospital related pneumonia or urinary tract infections, a reduction in diabetes and other related improvements. The HSCRC will need to quickly formulate an overall approach to facilitate planning for the upcoming year. Staff recommends that this formulation take place through discussions among the Commission, senior stakeholder executives, and staff.

The Total Cost of Care Agreement with CMS will have different features and requirements than the existing All-Payer Model Agreement. HSCRC staff recommends that the Payment Model Workgroup continue working through the fall to evaluate adjustments that will be needed to the annual update process as a result of the new Agreement with CMS.

Recommendations regarding preparation for the Total Cost of Care Model, effective January 1, 2019:

- a) The Commission should adopt a resolution and policy regarding the treatment of Maryland Primary Care Program care management fees during the start-up of the program.
- b) HSCRC staff should update the hospital revenue agreement template to reflect the new Model requirements.
- c) The annual update process should be reconfigured to conform to the new Total Cost of Care Model Agreement with CMS.
- d) The annual update should be reconfigured, in consultation with stakeholders, to promote aggressive and progressive care delivery changes that will improve population health, chronic care management, and reduce unnecessary and avoidable utilization, consistent with the goals of the new Total Cost of Care Model.

## **APPENDIX I. SUPPLEMENTAL INFORMATION ON RISING COST OF HOSPITAL DRUGS**

Staff completed, separate from this recommendation, an analysis that focused on the rising cost of hospital drugs. The purpose of this analysis was to aid staff, the Commission, and stakeholders in assessing funding levels and future policymaking decisions. Currently, hospitals are provided drug funding through two avenues: 1) drug cost inflation distributed using each hospital's drug cost in proportion to total drug costs and 2) changes in volume for the top 80 percent spend of high cost oncology drugs (providing 50 percent of the growth as a permanent adjustment and 50 percent of the growth as a one-time adjustment).

The drug cost analysis showed that drug costs increased faster than total hospital costs since 2014 in every year, except 2017, and that outpatient cost growth is the primary cost driver. Academic medical centers and hospitals with large outpatient programs were the largest proportion of this growth. Since 2014, there has been a statewide excess in funding provided in rates and funding in total appears to be adequate, although the analysis also found a variation by hospital in funding levels versus cost growth.

There have been some shifts of drugs to unregulated settings. As a result of specialization, some hospitals may be affected more by new drug introductions than others. The staff will continue to focus on making adjustments for changes in volumes of high cost drugs to address these and other dynamics. Staff is working to remove oncology drugs from the hospital market shift to avoid overlaps in adjustments and to more accurately measure changes in volumes of cycle-billed services such as clinics.

Inflation rates appear to be high enough to pick up the costs for much of the drug funding. However, funding for new oncology and biological drug costs continue to be a growing concern. Staff is continuing to refine the methodologies used to provide adjustments for changes in drug costs.

## **APPENDIX II. STAKEHOLDER COMMENT LETTERS**



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May 22, 2018

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

Dear Mr. Sabatini:

The purpose of this letter is to provide CareFirst's comments on the HSCRC staff's "Draft Recommendations on the Update Factors for FY 2019" which will be applied to hospital rates effective July 1, 2018.

It is now clear that the growth in Maryland's Total Cost of Care (TCOC) per Medicare FFS beneficiary in CY 2017 exceeded the US TCOC growth per FFS beneficiary for a second time in the four years of the Model Demonstration. This threatens a key "Guardrail" limitation in the Model Agreement that requires Maryland Medicare TCOC growth not to exceed US TCOC growth in any two consecutive years. If Maryland TCOC in CY 2018 were to violate this provision, a "Triggering Event" would occur thereby threatening the demonstration.

Stated another way, exceeding the growth in US Medicare TCOC in three years out of five would call into question the overall value of the Demonstration in a profound way.

It is noteworthy that, in CY 2014, the Maryland percentage change in non-hospital expenditures payments was approximately 1.03% percent below the US non-hospital growth rate and that, in every subsequent year, it has been well above the US growth rate with the pace of nonhospital payments growing more rapidly relative to the nation in each successive year.

Given this context, we believe it is imperative for the HSCRC to approve an Update Factor that is low enough to ensure that the growth in non-hospital expenditures for Maryland FFS beneficiaries is not underestimated again.

Our estimates of the growth rates for Maryland Medicare non-hospital expenditures relative to the US over the period CY 2014 to CY 2017 are as follows:

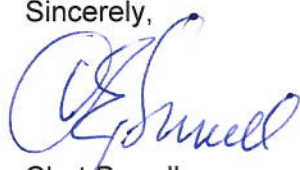
CY 14	CY 15	CY 16	CY 17
-1.03%	+1.19%	+1.30%	+1.37%

While we agree with the general structure used by staff in formulating its Update Factor recommendation this year, we believe that the staff has failed to provide a realistic forecast of the likely level of excess Maryland Medicare non-hospital expenditures during CY 2018. Accordingly, CareFirst strongly recommends that the estimate of excess growth in Maryland's Medicare non-hospital expenditures be based on a projection methodology that recognizes this escalating trend going forward to CY 2018 and bases the Update Factor on a nonhospital cost growth rate no less than that experienced in 2017. If this is done, we believe the Commission would need to approve an Update of no more than 1.4 percent in order to be reasonably sure that Maryland will not exceed the TCOC trigger.

We note that the HSCRC staff have suggested that the proposed permanent Update of 2.29 percent is conservative partly because it includes a 0.5 percent hospital savings factor for Medicare. However, the 0.5 percent factor was included in past years and Maryland TCOC growth still exceeded the US growth in two out of four years.

We would be happy to share our calculations with staff and the Commission in detail, if this would be helpful.

Sincerely,



Chet Burrell  
President & CEO

Cc: Joseph Antos, Ph.D., Vice Chairman  
Victoria Bayless  
John Colmers  
James N. Elliott, M.D.  
Adam Kane  
Jack Keane  
Donna Kinzer, Executive Director



Maryland  
Hospital Association

May 22, 2018

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

Dear Chairman Sabatini:

On behalf of the Maryland Hospital Association's 64 member hospitals and health systems, I write to share feedback from the hospital field on the commission's rate year 2019 (RY 2019) annual payment update. Hospitals appreciate the work of commission staff and the careful consideration of the payment update by the commission. We look forward to discussing the considerations in our letter.

### **Changes Needed for the Final Update**

#### **1. Categorical funding should be excluded from the annual payment update**

The draft recommendation identifies a 0.23 percent revenue adjustment for The Johns Hopkins Hospital and University of Maryland Medical Center to fund an expected increase in new and expensive therapies. Hospital innovation should be funded through the rate setting system, but the annual payment update is not the proper vehicle for addressing the concerns of individual institutions.

We recommend that the commission create a work group with all stakeholders to address this issue.

#### **2. Increase the annual payment update by at least 0.5 percent**

Maryland's hospitals recognize the limits imposed by the Medicare Total Cost of Care (TCOC) guardrail. Based on discussions with commission staff and the commission's discussion of the draft recommendation, we understand the commission's desire to exercise caution when approving a revenue increase that will affect calendar year 2018 TCOC performance. That said, there is ample justification for a modest increase. There is room within the model to accommodate such an adjustment.

There are several reasons to support a higher increase:

- i. There is additional cushion built into the national payment growth projection.
- ii. Maryland is an all-payer state, yet we are limited by Medicare growth.
- iii. The Medicare Performance Adjustment is currently in effect.

- iv. The update does not fully account for expected service growth from an aging population.
- v. Savings shared with payers exceeds infrastructure investment funding.
- vi. The prior year base period affects Maryland's total cost of care guardrail.
- vii. The draft recommendation does not reflect the Quality Based Reimbursement adjustment.

Below we elaborate upon each of these points.

i. **There is additional cushion built into the national payment growth projection.**

The draft recommendation draws on several conservative estimates to project national and Maryland growth including:

- For the first quarter of federal fiscal year 2018 (October 2017 through December 2017), *national Medicare hospital spending per beneficiary* [REDACTED] compared to the same quarter in the previous year. In federal fiscal year 2018, national hospital spending growth per beneficiary is projected to grow [REDACTED]. (This figure combines one quarter of calendar year 2017 and three quarters of calendar year 2018 and is based on hospital spending growth rates in the President's budget.) For this federal fiscal year 2018 projection to hold, the remaining three quarters must [REDACTED] or less per capita growth. Such a projection is highly unlikely to hold (Chart 1). *\*Data redacted above and in Chart 1 by HSCRC staff due to agreement with Federal government.*
- HSCRC revenue projection assumes that the 0.25 percent allowance for unforeseen adjustments will be used in full, beginning July 1, the first day of the fiscal year. The draft recommendation states that the entire set-aside was used during rate year 2018, but no summary was included to detail previous uses of these funds. Even if true, this would be the first time these funds were spent in their entirety.
- Commission staff appropriately adjusted the projected national growth rate for the fourth quarter of calendar year 2018, with one minor modification. Per the Centers for Medicare & Medicaid Services, the recently published Medicare Inpatient Prospective Payment System proposed rule reflects a national payment increase of 3.4 percent beginning in October 2018. The staff adjustment, 3.05 percent, is short by 0.35 percent.
- In addition to actual growth exceeding what was projected for the first quarter, the national spending growth from the President's budget projections is, in itself, under-projected. When projections from the federal fiscal year 2019 budget are compared to the prior year, all prior period growth rates have been revised upward, reflecting actual spending above what was projected (Chart 2).



ii. **Maryland is an all-payer state, yet we are limited by Medicare growth.**

The All-Payer Model is predicated on controlling both all-payer spending per capita and Medicare spending per beneficiary (per capita for the Medicare population). Spending can be managed by controlling prices, controlling service use, or both. The commission has regulated hospital prices since its inception, and has shifted its focus to the incentives to control service use since the beginning of the All-Payer Model.

Service use should be measured as a function of population change, particularly by payer. Unfortunately, global budget mechanics have had the unintended consequence of increasing Medicare payments even though Maryland's hospitals have controlled Medicare utilization per capita better than expected.

From 2013 to 2017, using equivalent case mix adjusted discharges (ECMADs) as the measure, Medicare service use declined 1.84 percent. All-payer service use declined 3.48 percent. Under global budgets, hospitals then collectively raised prices by 3.48 percent to achieve global budgeted revenue compliance, resulting in a 1.70 spending increase to Medicare. (Chart 3).

For the same period, the number of Maryland Medicare beneficiaries rose by 8.04 percent while the overall population of Maryland grew by 2.35 percent. *Measured on a per person basis, Medicare utilization declined 9.15 percent compared to an all-payer utilization decline of 5.70 percent.* Even if there was an implicit price increase of 5.70 percent to account for the all-payer reduction per capita, this would have resulted in Medicare savings of 3.66 percent, more than 5 percent greater than the actual experience (3.66 percent savings versus a 1.70 percent increase.) These per capita volume changes are consistent with the monthly commission reports, reflecting Medicare and all-payer volume changes and volume changes per 1,000 population.

If the commission is concerned about the annual payment update causing Medicare payment growth to exceed the total cost of care guardrail, it should consider a review of the effects of utilization reduction per capita and the interaction with global budgets, then rebalance the rate setting system using the payer differential. The timing of this differential adjustment is appropriate before Maryland moves to the Enhanced Total Cost of Care Model in January 2019.

iii. **The Medicare Performance Adjustment (MPA) is currently in effect.**

In 2017, the commission adopted the MPA, beginning with a calendar year 2018 performance period. The MPA places hospitals at risk for the variance in calendar year 2018 Medicare total cost of care. The commission adopted this policy to drive hospital-specific accountability for total cost of care growth in calendar year 2018 via rewards or penalties. This new incentive gives additional cushion for Medicare TCOC performance in 2018.

iv. **The update does not fully account for expected service growth from an aging population.**

During the last Payment Models Work Group meeting on May 3, MHA noted that the 0.46 percent set-aside for the demographic adjustment limits the amount provided for age-weighted use rates. Commission staff agreed. The commission's calculation weights service use by age classifications (for example, people aged 75-84 use services about three times the statewide average, while people aged 15-44 use services at about 60 percent of the average). Each of these age-weighted use rates is calculated for every hospital, minus an adjustment for potentially avoidable utilization (PAU) and application of a 50 percent variable cost factor. However, the update model limits the demographic adjustment to statewide population growth. On a cumulative basis, this creates a 0.36 percent negative difference (Chart 4).

v. **Savings shared with payers exceeds infrastructure investment funding.**

On an ongoing and permanent basis, *hospitals are returning an additional \$77 million* in payer savings, per year, beyond care transformation investments. The HSCRC staff's draft recommendation removes 1.75 percent, or \$299 million, of statewide revenue for payer savings. Including the 2014 through 2016 infrastructure investments, regional transformation grants, and the original Total Patient Revenue (TPR) incentives, 1.35 percent, or \$222 million, was placed in hospital rates for infrastructure and care transformation incentives (Chart 5). It will be extremely challenging to expand upon the field's care transformation efforts when the first \$77 million needs to be funded from current operations, combined with receiving a payment update below inflation.

Hospitals do not support the HSCRC's shared savings policy, which would reduce revenue by an estimated 1.75 percent. The amount of the reduction is too severe. Moreover, the way the Agency for Healthcare Research and Quality's Prevention Quality Indicators (PQIs) are quantified as a percentage of a hospital's total revenue is an inappropriate use of the indicators. PQIs are intended to measure the percentage of admissions for "ambulatory sensitive conditions" within a population, not as a percentage of hospital discharges, as HSCRC measures them. Hospital discharges shift for a number of reasons, making the calculation unsteady as a basis for payment incentives that materially affect hospitals' viability. HSCRC staff are aware of this concern and in the process of revising how PQIs are measured, the proposed revenue reduction should be eliminated until this issue can be resolved.

vi. **The prior year base period affects Maryland's total cost of care guardrail.**

Growth in hospital costs and total cost of care during the first four years of the model shows two peaks and two valleys. These peaks and valleys did not affect the favorable performance on the *cumulative* hospital savings measure, but did result in unfavorable performance on the *annual* total cost of care measure (Chart 6).

In year one and year three, Maryland's Medicare hospital spending per beneficiary growth rate was substantially below the nation's. In year two and year four, Maryland's

hospital spending per beneficiary growth rate was only slightly below the nation's. The strong performance in years one and three likely contributed to the higher statewide growth rates in years two and four, if for no other reason than that the base period was lower, affording a greater risk to grow faster than the nation. Assuming the pattern continues, calendar year 2018 (year five) should see favorable total cost of care performance compared to calendar year 2017.

vii. **The draft recommendation does not reflect the Quality Based Reimbursement (QBR) adjustment.**

The amount approved by the commission will apply to rate year 2019. Though the final adjustment is not expected until January 1, 2019, the estimated revenue change for Maryland's QBR program is not included in the template. At the May public meeting, staff stated that they expect the QBR placeholder to be negative – that is, adverse to hospitals. Early projections suggest this amount would *reduce the average update by at least another 0.3 percent*, reducing all-payer spending per capita to 1.52 percent. HSCRC staff also suggested that some funding may be included for oncology drugs, but this amount is unlikely to offset the entire QBR reduction.

3. **The productivity offset for Maryland's psychiatric and specialty hospitals should be eliminated, or at least reduced**

HSCRC staff is recommending an update of 1.77 percent, or 2.57 percent inflation less a 0.8 percent productivity adjustment, for Maryland's psychiatric and specialty hospitals. At the time when investments are sorely needed, the 0.8 percent reduction will put serious pressure on the ability to invest in critical behavioral health services. The proposed adjustment is double what the productivity offset was for rate year 2018. Mt. Washington Pediatric Hospital has no Medicare volume and will not impact the total cost of care growth. We respectfully request staff consider eliminating, or at least reducing, the productivity offset.

### **Commission Process for Handling of Stakeholder Comments**

At the May public meeting, the commission discussed the process for stakeholders to provide feedback to commission staff and how that feedback was incorporated into the draft recommendation. As mentioned during the discussion, the commission's Payment Models Work Group is used to solicit feedback from stakeholders.

We appreciate commission staff listening to stakeholder concerns and attempting to be fair and balanced in developing the draft recommendation. In the recently adopted guidance on adopting staff recommendations, the commission approved a policy that requires staff to address stakeholder comments in the final recommendation. We look forward to these written responses.

Already, MHA has raised several considerations that have not been addressed in the Payment Models Work Group, or for which responses are not clear. First, staff noted that the scheduled payback from The Johns Hopkins Hospital will increase revenue by \$10 million in calendar year

2018. It is not clear if the amount provided to Johns Hopkins, net of last year's payback, is reflected in the calendar year 2017 base period figure.

Second, for rate year 2018, the commission approved an all-payer revenue increase of 3.34 percent, or 2.97 percent per capita. This year's staff recommendation reflects an actual global budgeted revenue increase from \$17.1 billion in rate year 2017 to \$17.5 billion in rate year 2018. That amounts to an all-payer revenue increase of 2.64 percent. We have respectfully asked staff to clarify this discrepancy.

Third, we requested a reconciliation of the amounts provided for unforeseen adjustments in rate year 2018.

Finally, in the last work group meeting, the hospital field noted that the first quarter calendar year 2018 Global Insight data reflect an inflation factor of 2.68 percent, 0.11 percent higher than the previous estimate. Staff did not account for this adjustment in their presentation of the draft recommendation at the May public meeting. Historically, the Global Insight release from the first quarter of the calendar year immediately preceding the update has been used as the inflation factor.

We did not expect staff responses to all of these requests be included in the draft recommendation, but we would appreciate receiving this information at the next work group meeting on May 31.

We look forward to discussing the update at the May 31 meeting and at the HSCRC's monthly public meeting on June 13, as we continue to work together on behalf of the patients and communities we serve.

Sincerely,



Brett McCone,  
Vice President

cc: Joseph Antos, Ph.D., Vice Chairman  
Victoria W. Bayless  
John M. Colmers  
James Elliott, M.D.

Adam Kane  
Jack C. Keane  
Donna Kinzer, Executive Director  
Jerry Schmith, Director, Revenue & Compliance

Enclosure



Chart 1

**National Medicare Hospital Spending per Beneficiary Growth**

Actual First Quarter Federal Fiscal Year 2018 Compared to First Quarter Federal Fiscal Year 2017;

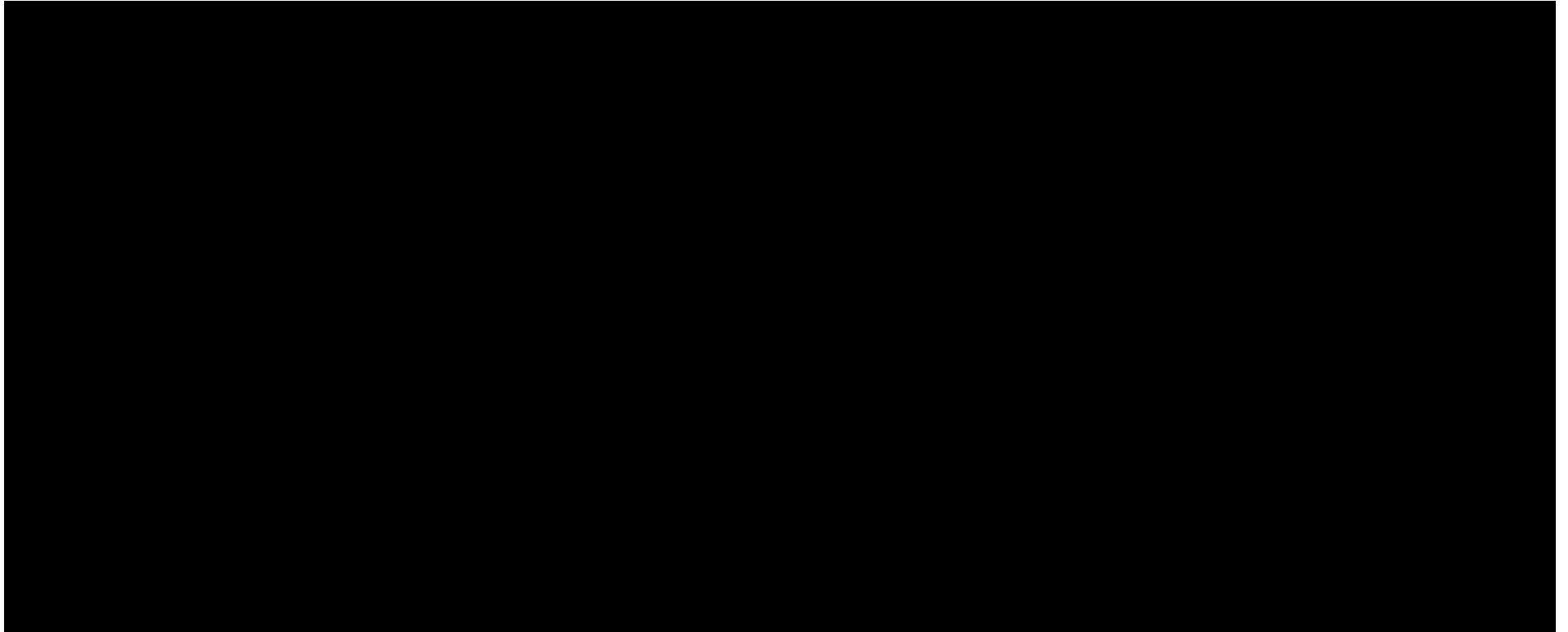


Chart 2

**Medicare Per Capita Hospital Spending Projections**

[Based on Fiscal Year 2019 President's Budget]

**Hospital Spending per Beneficiary**

CY	Annual Per Capita Expenditures			Per Capita Trend			Prior Year President's Budget	Difference
	Inpatient	Outpatient	Total Hospital	Inpatient	Outpatient	Total Hospital		
2013	\$ 3,666	\$ 1,095	\$ 4,761					
2014	3,645	1,241	4,886	-0.6%	13.3%	2.6%	2.6%	0.00%
2015	3,682	1,346	5,028	1.0%	8.5%	2.9%	2.6%	0.31%
2016	3,753	1,425	5,178	1.9%	5.9%	3.0%	1.1%	1.87%
2017	3,783	1,548	5,331	0.8%	8.6%	3.0%	1.6%	1.33%
<b>2018</b>	<b>3,776</b>	<b>1,667</b>	<b>5,442</b>	<b>-0.2%</b>	<b>7.7%</b>	<b>2.1%</b>	<b>3.1%</b>	<b>-1.06%</b>
2019	3,862	1,775	5,637	2.3%	6.5%	3.6%		

**CY14 - CY17 average difference 0.88%**

Chart 3

**Change in Medicare and All-Payer Utilization, and Utilization per Capita**

Utilization defined as Equivalent Case Mix Adjusted Discharges (ECMADs)

	A	B = A(tot)	$C = (1+A) / (1-B) - 1$	D	$E = (1+A) / (1+K) - 1$	F = E(tot)	$G = (1+E) / (1-F) - 1$	H = C - G
	<u>Unadjusted Use and Spending % Change</u>			<u>Use and Spending % Change per Beneficiary</u>				
<u>Payer</u>	<u>Service Use % Change (ECMADs)</u>	<u>Price Increase</u>	<u>Net Change in Spending</u>	<u>Beneficiary or Population Change</u>	<u>Service Use % Change per Beneficiary</u>	<u>Price Increase (if per capita)</u>	<u>Net Change in Spending</u>	<u>Cost Shift to/(from) payer</u>
Medicare	-1.84%	3.48%	1.70%	8.04%	-9.15%	5.70%	-3.66%	<b>5.36%</b>
All Payer	-3.48%	3.48%	0.00%	2.35%	-5.70%	5.70%	0.00%	<b>0.00%</b>

Chart 4

**Demographic Adjustment Compared to Population Growth Limit**

	Age and PAU Adjusted Weighted Amount	Variable Cost Factor (VCF)	Age/PAU Weighted Factor @ 50% VCF	Demographic limit	<b>Limit Over / (Under) Age/PAU @ 50% VCF</b>
Rate year 2018	0.86%	50%	0.43%	0.36%	<b>-0.07%</b>
Rate year 2017	1.32%	50%	0.66%	0.44%	<b>-0.22%</b>
Rate year 2016	1.18%	50%	0.59%	0.47%	<b>-0.12%</b>
Rate year 2015	1.10%	50%	0.55%	0.60%	<b>0.05%</b>
<b>Total</b>					<b>-0.36%</b>

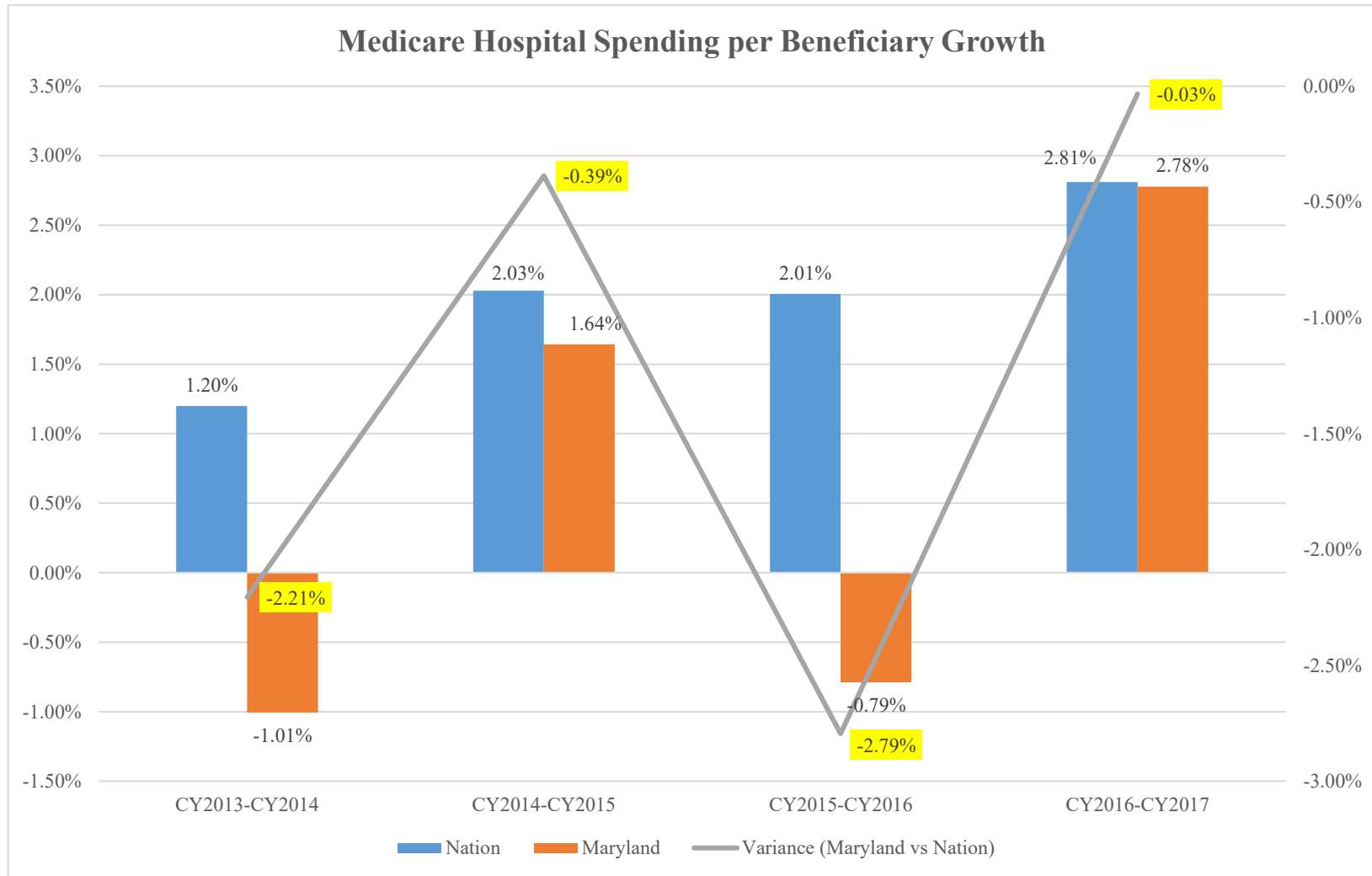
Chart 5

**Cumulative Infrastructure Funding; Cumulative Potentially Avoidable Utilization Savings**

Financial impacts in FY2018 dollars

	% Rate Funding	\$ Impact	Notes/Comments
<b>Potentially avoidable utilization (PAU) savings and other funding offsets</b>			
<u>Shared savings offset</u>			
FY2014	-0.20%	(34,200)	Annual PAU savings offset
FY2015	-0.20%	(34,200)	Annual PAU savings offset
FY2016	-0.20%	(34,200)	Annual PAU savings offset
FY2017	-0.65%	(111,150)	Annual PAU savings offset, increased for FY2017
FY2018	-0.20%	(34,200)	Annual PAU savings offset
FY2019 (proposed)	-0.30%	(51,300)	Annual PAU savings offset
<b>Subtotal PAU savings offset</b>	<b>-1.75%</b>	<b>(299,250)</b>	
<hr style="border-top: 1px dashed black;"/>			
<b>Infrastructure / care coordination funding</b>			
TPR conversion funding (provided in FY2011)	0.27%	\$ 46,581	2011 TPR incentive, price leveled by 2% for five years
<u>Infrastructure funding</u>			
FY2014	0.22%	\$ 38,011	HSCRC report to CMS (FY2014 budget was 0.25%)
FY2015	0.28%	48,583	HSCRC GBR Summary File
FY2016	0.37%	63,057	HSCRC GBR Summary File
FY2017	-	-	No funding
FY2018	-	-	No funding
FY2019	-	-	No funding
Subtotal infrastructure funding	0.88%	149,652	
<b>TPR plus infrastructure funding</b>	<b>1.15%</b>	<b>196,232</b>	
Regional transformation grants (2016-2017); net of required return on investment (1/3 of total)	0.15%	25,926	Total less 30% return; HSCRC Nov 16 rec.
<b>Total infrastructure and transformation funding</b>	<b>1.30%</b>	<b>\$ 222,158</b>	
<b>PAU Savings net of infrastructure and transformation funding</b>	<b>-0.45%</b>	<b>\$ (77,092)</b>	

Chart 6



May 25, 2018

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

Dear Chairman Sabatini,

Holy Cross Health appreciates the opportunity to provide comment regarding the proposed 2019 annual global budget update. Holy Cross is committed to the care transformation goals of the Maryland All-Payer Model but it is essential for adequate funding to be available to continue our transformational work and support the necessary programming, technology and infrastructure to improve care coordination.

With the approval of the Maryland Total Cost of Care All Payer Model and the implementation of Medicare Performance Adjustment in 2018, Maryland hospitals are already incentivized to effectively manage utilization and care delivery across the entire health system. To be successful in lowering total cost of care (TCOC), hospitals must be innovative in care coordination and post-acute service delivery and align our efforts with physicians and other providers to achieve these goals. Providing an insufficient rate update to cover projected cost increases makes it even more challenging to invest in the essential resources to improve care coordination processes and lower overall costs. In addition, a less than adequate update will make it challenging to fund enhancements to the current programs that directly improve care coordination and reduce the total cost of care. It will also impact our ability to provide competitive wages for our employees in a market where the demand is already greater than supply and retention is key to continuity in care delivery. The state health systems, as you know, are also experiencing significant drug shortages which is causing an increase in our total drugs cost. As we look for alternative options, including reduction of opioid use, we need the support of our rate system to ensure coverage of high cost, low supply pharmaceuticals.

Holy Cross Health has and continues to invest in Population Health initiatives beyond the amounts funded in rates. We continue to innovate and collaborate within our regional partnership (Nexus Montgomery) and bring in expertise from other states through our Trinity Health affiliation. The initiatives below are some of our recent investments in managing the care continuum and further expansion of these efforts are essential to lowering the overall cost of healthcare in our community:

- Dedicated case managers in the Emergency Department to work with clinical teams in defining and facilitating patient assessments that include hospitalization alternatives
- Increase in case management discharge planning staff through Nexus Montgomery
- Providing home visits by a nurse and follow-up coaching calls for uninsured patients and for those not qualifying for payer supported home care service
- Providing home pharmacy visits with medication reconciliation, counseling and home delivery
- Dedicated coordinators with skilled nursing facilities to assure accurate and complete information is available for care transitions
- Review of "high utilizers" with Montgomery County EMS providers to create integrated care plans
- Implementation of a tablet-based real time interaction with a nurse for high risk patients as part of post-acute home care services

This critically important work takes substantial resources and funding to implement successfully and achieve the benefits projected. Providing insufficient resources to continue these efforts will jeopardize the achievement of our universal objectives under the triple aim.

To continue the progress we have made in improving the coordination of care while meeting the needs of our community, we urge the HSCRC to provide a reasonable update factor which will help us meet our total cost of care goals. The Maryland Hospital Association has proposed a reasonable alternative to the staff-recommended global budget update and Holy Cross Health supports the MHA recommendation.

The hospital industry has performed well under this new system but it will be difficult to meet the challenges of the updated payer model without developing and implementing additional innovative care programs. Thank you for the opportunity to provide our comments as we look forward to continuing our efforts in transforming our care delivery system.

Sincerely,



Norvell V. Coats, M.D.  
Chief Executive Officer



Yancy Phillips, M.D.  
Chief Quality Officer



Anne Gillis  
Chief Financial Officer

Cc: Joseph Antos, Ph.D., Vice Chairman  
Victoria W. Bayless  
John M. Colmers  
James Elliott, M.D.

Adam Kane  
Jack C. Keane  
Donna Kinzer, Executive Director



Ed Beranek  
Vice President of Revenue Management  
and Reimbursement  
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May 25, 2018

Donna Kinzer  
Executive Director  
Health Services Cost Review Commission  
4160 Patterson Avenue  
Baltimore, MD 21215

Dear Ms. Kinzer:

The purpose of this letter is to provide a response on behalf of the Johns Hopkins Health System to the "Shifts to Unregulated" portion of the HSCRC staff recommendation for the FY 2019 Update Factor as presented at the May 2018 public meeting.

We agree that a hospital needs to notify the HSCRC well in advance of moving services to an unregulated setting when it is an intentional decision by the hospital. We are also in agreement that the hospital's GBR should be adjusted in a timely fashion under these circumstances. There are situations however, when advanced notification and an associated adjustment to GBR revenue are not always possible or warranted.

These points should be included in a well formulated policy developed by the HSCRC. The policy should include:

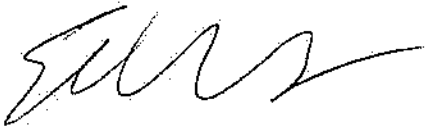
1. The process and time lines for notification to the HSCRC
2. The specific information required to be reported
3. Incentives to the hospitals for moving services to a lower cost setting and improving the overall Total Cost of Care (TCOC).
4. The factors that are leading to the shift of services
  - A. Is the move an intentional decision by the hospital (movement of an entire program)
  - B. Is the movement caused by payor behavior/actions

- C. Is the movement due to physician shifts/changes that may not have been anticipated or even known by the hospital.
- 5. Reasonable fines or consequences for not complying with the policy. There should be no retroactive adjustments. Additionally, there shouldn't be penalties when hospitals are faced with changes outside of their control.

In conclusion, a thorough policy around shifting business from a hospital setting to an unregulated setting should improve TCOC for the state as a whole. It will also benefit hospitals in that they can apply the policy rules to make informed business decisions about where to provide the most appropriate care in a setting with the lowest cost possible.

We appreciate the opportunity to comment on this important industry topic and look forward to working with the HSCRC on the development of a policy.

Sincerely,



Ed Beranek

Vice President of Revenue Management and Reimbursement  
Johns Hopkins Health System



# MedStar Montgomery Medical Center

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medstarmontgomery.org

David Havrilla, CFO  
VP of Finance

Administration

May 25, 2018

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

Dear Chairman Sabatini:

On behalf of MedStar Health, Montgomery Medical Center, I am writing to share a few additional comments on the Staff's Draft Recommendation for Rate Year 2019 beyond the Maryland Hospital Associations letter for the hospital industry.

The following areas are specific to MedStar Montgomery Medical Center and we would like to bring them to your attention

- 1) An in-flux of Behavioral Health patients in our Emergency Department presenting with extraordinary needs:
  - Longer length of stay due to difficulty in placement
  - Higher workplace violence for our associates resulting in escalated staff turnover
    - Workplace violence incidents are trending higher by 30%, increasing Worker's Compensation
    - Lost work day cases of associates have increased 54%
- 2) Greater need for additional staff to expand our transitional care programs:
  - Patients participating in transitional care have significant reduction in readmission (50%)
- 3) The cost of Information Technology (IT):
  - Our cost of IT continues to grow for the implementation of EHR.
  - With increases in the number of subscribers with deductible/co-pays, we are striving to improve collection at point of service
  - Increased regulatory reporting requirements
- 4) Increase nursing costs to address vacancy factors for RNs:
  - Premium pay for nursing staff increases our cost 30-50% due to contractual rates and additional training
    - Agency nurses/Overtime
    - Additional orientation/training

5) Economic inflation from Healthcare partners:

- OR supplies and implants
- Outside contract services/Purchased Services
- Utilities

We would appreciate your consideration for the items listed above as we continue to serve our community under population health. Therefore, we strongly urge you to consider an additional 0.5% for the FY 19 update factor.

Thank you for your time and consideration.

Sincerely,



David Havrilla  
Vice President & Chief Financial Officer



# MedStar Health

## **Bradley S. Chambers**

President, MedStar Good Samaritan Hospital  
President, MedStar Union Memorial Hospital  
Senior Vice President, MedStar Health

### **MedStar Good Samaritan Hospital**

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**MedStarGoodSam.org**

### **MedStar Union Memorial Hospital**

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May 22, 2018

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

Dear Chairman Sabatini:

On behalf of the MedStar Health System, MedStar Good Samaritan Hospital and MedStar Union Memorial Hospital, I am writing to share a few additional comments on the Staff's Draft Recommendation for Rate year 2019 beyond the Maryland Hospital Association's letter for the Hospital Industry.

While we appreciate the HSCRC staff deliberations on the proposed update factor, I remain extremely concerned that the current proposal will result in another year of expense inflation outpacing revenue inflation. This disconnect continues at a time when we are striving to build programs that align with our obligations under Waiver 2.0.

As you know, the community we serve, in particular at MedStar Good Samaritan, has a unique patient population. Our patients consistently have multiple chronic conditions and co-morbidities. The PAU methodology already disproportionately penalizes these hospitals due to the type of patients we serve. Providing lower than inflation update factors only compounds the problem.

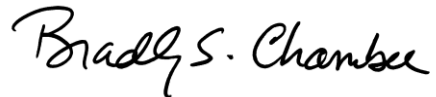
Our ability to better manage the chronic population we serve will be critical to our success under the new waiver. We have a number of program plans under way that will allow us to better manage these patients in the outpatient setting as desired under the new waiver. These programs include, but are not limited to the following:

- Expansion of the Center for Successful Aging
- Addition of the Center for Chronic Disease Management
- Investments in post acute care coordination
- Expansion of services provided in the Good Health Center
- Investment in resources in the Emergency Department to ensure patients are being treated in the most appropriate care setting

These are just a few of the initiatives we are currently working on. Continuing to provide revenue updates at a rate below expense inflation, coupled with the disproportionate penalties of some of the pay for performance programs, will absolutely slow our progress on these important initiatives because our ability to fund these priorities will be severely limited. Without investment in these types of programs, our ability to meet the goals of the new waiver will be compromised. Therefore, I strongly urge you to consider an additional 0.5% for the FY 19 update factor.

Thank you for the opportunity to comment.

Sincerely

A handwritten signature in black ink that reads "Bradley S. Chambers". The signature is written in a cursive, flowing style.

Bradley S. Chambers  
President MedStar Good Samaritan and MedStar Union Memorial Hospitals

cc: Joseph Antos, Ph.D., Vice Chairman  
Adam Kane  
Victoria W. Bayless  
Jack C. Keane  
John M. Colmers  
James Elliott, M.D.  
Donna Kinzer, Executive Director  
Jerry Schmith, Director Revenue and Compliance





# MedStar Harbor Hospital

Medstar Harbor Hospital  
3001 South Hanover Street  
Baltimore, MD 21225  
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[medstarharbor.org](http://medstarharbor.org)

May 25, 2018

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

Dear Chairman Sabatini:

On behalf of MedStar Harbor Hospital (MHH), I would like to thank you for the opportunity to share my thoughts on the proposed HSCRC update for FY2019. The schedule released by the HSCRC staff shows an update for MHH that is significantly below projected inflation of 2.57% as well as projected demographic growth. I am further concerned about the 0.30% PAU savings projection, which affects hospitals like MHH operating in traditionally underserved areas disproportionately given the weighting of the AHRQ Prevention Quality Indicator/ Ambulatory Care Sensitive Conditions (ASC's) as a percentage of hospital discharges.

Patients in our communities suffer a higher baseline prevalence of chronic conditions (as compared to hospitals that are more surgically or tertiary care oriented), and have historically been underserved from the perspective of access to primary care and other preventive services. I am concerned that multiple years of revenue updates below inflation will adversely impact the transformation needed to meet the obligations under the new model, as well as the ability to serve our communities as we strive to develop partnerships with local care providers to improve access to care and clinical outcomes.

MHH has made significant investments in a wide-range of population health improvement initiatives including bridge clinics, palliative care programs, patient medication assistance, care coordination, and is considered an area leader in ED Peer Support through the SBIRT and survivor's outreach programs. We recently made an \$8M+ investment to meet the urgent and growing behavior health needs of our region. We now provide a wide-range of behavioral health services including crisis intervention, inpatient, partial hospitalization, and intensive outpatient counseling services. MHH is a major provider of high risk obstetrical services to the South Baltimore community and is meeting the growing needs for care of drug addicted mothers and babies through innovative and collaborative campus-based programs dedicated to the care of these vulnerable populations.

MedStar Harbor Hospital is working hard to increase the value and access of services to our communities. I appreciate your consideration of the Maryland Hospital Association's request for an additional .50% being added to the proposed update factor.

Sincerely,

Stuart M. Levine, MD, FACP  
President & Chief Medical Officer, MedStar Harbor Hospital  
Senior Vice President, MedStar Health



# MedStar Health

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**MedStarHealth.org**

**Susan K. Nelson**  
Executive Vice President and  
Chief Financial Officer

May 25, 2018

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

Dear Chairman Sabatini:

On behalf of MedStar Health and our Maryland hospitals, I am writing to share a few additional comments on the Staff's Draft Recommendation on the Update Factors for Rate Year 2019 supplementing the Maryland Hospital Association's letter on behalf of the hospital industry.

## **Update Factor**

The HSCRC update schedule indicates an average hospital rate increase of 2.81%; however, the range of increase by hospital is quite wide. For example, the application of this proposed update to MedStar hospitals results in a range of rate increases from .98% to 2.39% with an average of 1.73%. These increases are significantly below projected inflation of 2.57% and projected demographic growth of .96% for the populations we serve. There are several factors contributing to this lower update factor than what is shown on the HSCRC schedule:

- (1) The additional .30 % PAU savings in the HSCRC update schedule impacts several of our hospitals disproportionately. The methodology was changed to add Ambulatory Sensitive Conditions and as a result penalizes community hospitals that are treating patients with chronic conditions and providing little tertiary or specialized services.
- (2) The Academic Medical Centers receive an additional 1.0% for new technology, which equates to a statewide average of .23%.
- (3) The update of 2.81% provides the add-back for the Quality Based Reimbursement, but excludes any estimates for the FY19 adjustments. Based on information provided by the staff related to the change in the policy, we estimate this will be a reduction statewide of .35%.
- (4) There is a set-aside for unknown adjustments of .25% which is not distributed to the hospitals in the update factor.

We expect other community hospitals will also receive updates below the average 2.81% on the HSCRC update schedule. We are concerned that continued updates below inflation will impact the ability of hospitals to continue on-going transformation activities needed to meet the obligations under Phase 2 of the Waiver. In addition, it should be noted that community hospitals as well as academic medical centers are experiencing drug and supply cost increases above the projected inflation of 2.57% as well as salary and benefit increase pressures in a competitive labor market. We hope you will strongly consider the MHA request for an additional .50%, increasing the average rate increase for MedStar Hospital's to 2.23%, which is still more than 1.0% below inflation.

## **Shift to Unregulated Services**

We believe hospitals need clarification related to the HSCRC definition and process around the reporting of shifts to unregulated services as described in the draft recommendation on the update factor for FY2019.

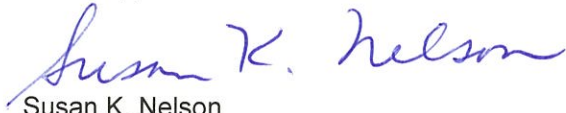
The historical application required notification to the HSCRC when a hospital closed a service or moved a service to deregulated space. It appears that the language in the draft recommendation broadens this



definition. The additional guidance should address partial shifts of services due to physician preference, payer preference and change in clinical protocols. In addition, consideration should also be given to operational challenges that hospitals may experience in complying with the required reporting.

We appreciate the opportunity to comment on this important matter.

Sincerely,



Susan K. Nelson  
Executive Vice President and Chief Financial Officer

cc:

Joseph Antos, Ph.D., Vice Chairman

Adam Kane

Victoria W. Bayless

Jack C. Keane

John M. Colmers

James Elliott, M.D.

Donna Kinzer, Executive Director

Jerry Schmith, Director Revenue and Compliance



# MedStar Franklin Square Medical Center

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**Samuel E. Moskowitz, FACHE**  
**President**  
**Senior Vice President, MedStar Health**

May 25, 2018

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

Dear Chairman Sabatini:

On behalf of MedStar Franklin Square Medical Center (MFSMC), I am writing to offer my thoughts on the proposed HSCRC update for FY2019. The schedule released by the HSCRC staff shows an average of 2.8% for Maryland hospitals which includes the Global Insights inflation estimate. Unfortunately, it appears as though MFSMC will not receive an adjustment that is close to the Global Insights inflation factor of 2.57%.

The reductions to the update factor that raise concern include:

- (1) The update of 2.81% provides the add-back for the Quality Based Reimbursement but does not have any estimates for FY2019 adjustments, including planned reductions for any changes in policy. We estimate this would translate into a hidden statewide reduction of 0.35%;
- (2) The additional 0.30% for PAU savings affects MFSMC (and several of our MedStar hospitals) disproportionately when the methodology was changed to add Ambulatory Care Sensitive Conditions (ASC's). The inclusion of ASC's penalizes community hospitals like MFSMC who have a disproportionate share of patients in our communities suffering from chronic conditions (as opposed to hospitals that are more surgically or tertiary care oriented); and,
- (3) A set aside for unknown adjustments that is not released to the hospital industry in a formalized process.

I expect other community hospitals will see update factors that are well below existing inflation. Should hospitals see update factors like this moving forward, we will not be able to continue to invest in the transformation necessary to succeed under the new Maryland Model. MFSMC has made significant investments in a wide-range of population health improvements including medication assistance, patient transportation, patient navigators, assignment of transitional care nurses, the use of palliative care, and other care coordination assistance. I hope the HSCRC will strongly consider the MHA request of an additional 0.50% being added to the proposed update factor. This increase, while still below the Global Insights inflation factor, will allow us to continue to serve the communities that call upon us within the goals outlined in the new Maryland Model.

Sincerely,

Samuel E. Moskowitz, FACHE  
President



An affiliate of University of Maryland Medical System and Johns Hopkins Medicine

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

May 25, 2018

Mr. Sabatini,

Mt. Washington Pediatric Hospital occupies a unique niche in the Maryland healthcare continuum. As a lower-cost post-acute provider, the hospital helps reduce overall expense by treating medically-appropriate patients who transfer from a NICU or PICU. At the same time, the hospital generates almost no Medicare revenue as few pediatric patients are covered. In addition, its inpatient medically complex children are particularly vulnerable and cannot safely be transitioned to an outpatient setting at this stage in their care.

For these reasons, MWPH is writing to request rate relief from the proposed 1.77% update factor, which is the result of reducing the 2.57% inflation rate by a 0.8% productivity adjustment. This steep of a productivity adjustment detracts from MWPH's ability to fulfill its mission, increases overall statewide costs, and does not provide a measureable benefit to Maryland's effort to meet its goals under the Federal Demonstration Project.

Mt. Washington serves a unique patient population. Virtually all admissions come from an acute care hospital, typically from a NICU or a PICU. For this reason, admissions to Mt. Washington reduce overall hospital costs in Maryland, as patients are moving from more expensive acute care to a less expensive post-acute setting. The highest daily room rate at MWPH is \$1,237; area NICU rates average \$1,703 and area PICU rates average \$3,172. In addition to reducing the cost per day of care, transferring patients to MWPH opens NICU and PICU beds for the infants and children who need them.

Reducing rate growth below inflation for MWPH restricts our ability to hire and retain the staff required to treat these patients. Although our daily rates are

Accredited by The Joint Commission  
and by Commission on Accreditation  
of Rehabilitation Facilities

[mwph.org](http://mwph.org)

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at Prince George's Hospital Center**  
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An affiliate of University of Maryland Medical System and Johns Hopkins Medicine

lower than acute care, we have to pay the same market rates to attract nurses and other providers. Due to market forces, MWPH may need to increase nursing salaries by 3% for FY 2019 to hire and retain staff. The .8% rate reduction would cost the hospital almost \$400 thousand, reducing our ability to attract clinical personnel. When MWPH can't retain staff, admissions are delayed or denied and it becomes more likely patients will spend additional time in more expensive settings.

In fact, inpatient volumes have declined over the past two years. The average daily census was 62 in FY16, but only 58 in FY17 and in FY18. As a result, our operating margin declined in FY17, and is projected to decline again in FY18. Although referrals from acute care hospitals have remained consistent this year, the hospital has struggled to retain the clinical staff needed to care for these patients. We estimate that about one admission per week has been denied or significantly delayed due to inadequate staffing. With our average length of stay of 34 days, this can result in up to 1,500 lost post-acute patient days.

Although its rate structure is linked to the state's psychiatric hospitals, Mt. Washington is different. MWPH has almost no patients that are covered by Medicare. Over the past three years, annual Medicare revenue averaged just \$87,000 per year. A rate increase of 2.57%, rather than 1.77%, would total less than \$1,000 in additional Medicare revenue.

While the productivity adjustment serves as an incentive to move care from inpatient to outpatient or other lower-intensity settings, the medically complex children that MWPH admits as inpatients are a particularly vulnerable population. The hospital's work is already overseen by insurers, who typically review inpatient cases weekly or bi-weekly to assure that inpatient stays do not last longer than is medically necessary. The 0.8% productivity adjustment would not serve to limit length of stay or readmissions. Instead, it would only limit the number of patients MWPH could serve, leaving the state to pay higher costs in acute care settings. For these reasons, MWPH requests that it receive the full 2.57% rate increase, without a productivity adjustment.

Thank you for your consideration.

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and by Commission on Accreditation  
of Rehabilitation Facilities

[mwph.org](http://mwph.org)

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Mt. Washington  
Pediatric Hospital

*Where Children Go to Heal and Grow*

An affiliate of University of Maryland Medical System and Johns Hopkins Medicine

Sincerely,

Sheldon Stein, CEO

Mary Miller, CFO

Cc: Donna Kinzer, Executive Director, HSCRC  
Joseph Antos, PhD, Commissioner, HSCRC  
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James Elliott, MD, Commissioner, HSCRC  
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Adam Kane, Commissioner, HSCRC  
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# **Final Recommendation for the Potentially Avoidable Utilization Savings Policy for Rate Year 2019**

June 9, 2018

Health Services Cost Review Commission  
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This document contains the final staff recommendations for updating the Potentially Avoidable Utilization (PAU) Savings Policy for RY 2019.

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## CHANGES FROM DRAFT TO FINAL RECOMMENDATION

See staff responses to Commissioner and stakeholder feedback (page 6). There are no substantive changes between draft and final policies outside of responses to feedback.

## RECOMMENDATIONS

Staff recommends the following for the Potentially Avoidable Utilization (PAU) Savings policy for RY 2019:

1. Increase the net PAU reduction by 0.30%, which would be a cumulative PAU reduction of 1.75%, compared to the 1.45% reduction in RY 2018.
2. Cap the PAU Savings reduction for hospitals with higher socioeconomic burden at the statewide average reduction; however, solicit input on phasing out or adjusting for subsequent years.
3. Evaluate expansion and refinement of the PAU measure to incorporate additional categories of potentially avoidable admissions and potentially low-value care.

## INTRODUCTION

The Maryland Health Services Cost Review Commission (HSCRC or Commission) operates a Potentially Avoidable Utilization (PAU) savings policy as part of its portfolio of value-based payment policies. The PAU Savings policy is an important tool to maintain hospitals' focus on improving patient care and health through reducing potentially avoidable utilization and its associated costs. While hospitals have achieved significant progress to date in transforming the delivery system, the State must maintain continued emphasis on care management, quality of care, and care coordination, especially for complex and high-needs patients. The PAU Savings policy is also important for maintaining Maryland's exemption from the Centers for Medicare & Medicaid Services (CMS) quality-based payment programs, which is pivotal, as this autonomy allows the State to operate its own programs on an all-payer basis.

The PAU Savings Policy prospectively reduces hospital global budget revenues in anticipation of volume reductions due to care transformation efforts (refer to Appendix I for a description of the current PAU measures, and Appendix II for a background and history of the HSCRC Shared Savings Programs). All hospitals contribute to statewide PAU Savings; however, each hospital's reduction is proportional to their percentage of PAU revenue. In contrast to HSCRC's other quality programs, which reward or penalize hospitals based on performance, the PAU Savings Policy does not offer opportunity for reward, as it is intentionally designed to assure savings to payers and reduce costs for consumers.

The purpose of the following sections is to present supporting analyses for the PAU Savings final recommendation for rate year (RY) 2019. Additional information about the future expansion of the PAU measure, as well as other considerations regarding avoidable utilization, is



available in the enclosed Supplemental Report on Efforts to Modernize PAU Measurement and Adjustment in Future Years.

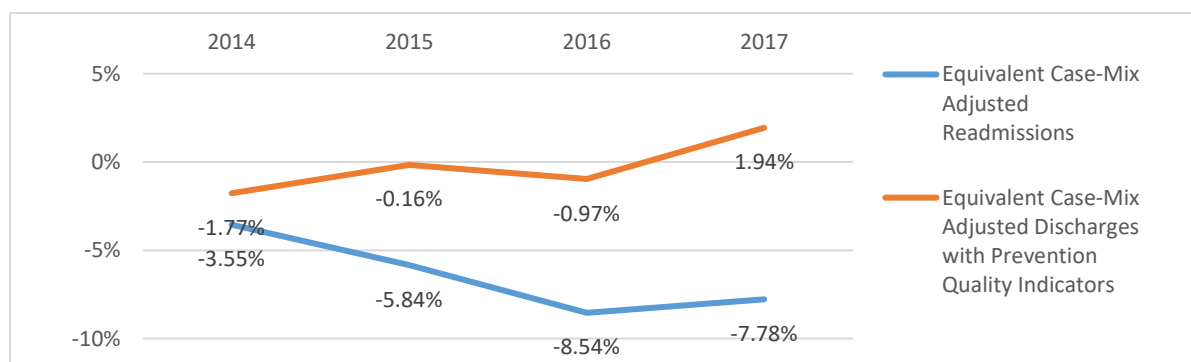
## ASSESSMENT

### Potentially Avoidable Utilization Performance

Potentially Avoidable Utilization (PAU) may be defined as “hospital care that is unplanned and can be prevented through improved care coordination, effective primary care and improved population health.”<sup>1</sup> In RY 2019, HSCRC continues to determine PAU savings based on hospital performance from the prior calendar year, i.e. CY 2017, and PAU continues to be defined as: a) readmissions, assessed at the receiving hospital, and b) Prevention Quality Indicators (PQIs).<sup>2</sup>

Figure 1 below shows trends in equivalent case-mix adjusted discharges for readmissions and Prevention Quality Indicators since calendar year (CY) 2013. Compared to CY 2013, the all-payer equivalent case-mix adjusted discharges that were readmissions declined 7.8% through CY2017; however this is slightly less of a reduction than had been experienced through CY2016 (-8.54%).<sup>3</sup> This reduction in discharges is different than the reduction in the case-mix adjusted readmission rates presented in the Readmission Reduction Improvement Program (RRIP). In contrast, equivalent case-mix adjusted discharges with PQIs increased by 1.94% in CY2017 compared to CY2013.<sup>4</sup> However, some readmission reductions may impact PQI discharges; for example, an ambulatory-care sensitive discharge within 30 days of an index admission would be considered a readmission, but if that discharge is prevented until day 31, it is considered a PQI. In addition, these numbers represent the change in discharges, not a rate per population, and thus are not equivalent to other PQI rates presented with the population as the denominator. (See Future Measurement section for more discussion). Appendix III provides more detailed information on specific PQI trends.

**Figure 1. Percent Change in Readmissions and PQIs compared to CY 2013**



<sup>1</sup> [http://www.qualityindicators.ahrq.gov/modules/pqi\\_overview.aspx](http://www.qualityindicators.ahrq.gov/modules/pqi_overview.aspx).

<sup>2</sup> PQIs measure inpatient admissions and observation stays greater than 23 hours for ambulatory care sensitive conditions. See Appendix II

<sup>3</sup> These numbers may differ from those in previous year reports due to data and grouper updates.

<sup>4</sup> Trends in PQIs between 2015 and 2016 should be interpreted with caution due to the implementation of ICD-10.

## Proposed Revenue Reduction

Each year, the State reviews total cost of care and hospital savings trends, in conjunction with trends in calculated avoidable utilization, to determine the statewide PAU savings reduction for the upcoming rate year. In RY 2018, the HSCRC approved an additional statewide reduction of 0.20%, which resulted in a cumulative reduction of 1.45%.

In RY 2019, HSCRC staff proposes to set the annual savings reduction at 0.30%, which will result in a statewide PAU savings reduction of 1.75% of total hospital revenue. Figure 2 shows the total and net revenue reduction associated with a PAU reduction of 1.75%. Of particular note, the modeled 1.75% reduction in budgets reflects approximately 16.4% of statewide experienced PAU under the current definition, which suggests that 84.6% of PAU is still funded in the Global Budget Revenue Model and hospitals with larger PAU reductions can retain the savings under the global budgets.

**Figure 2. Proposed RY 2019 Statewide Savings\***

<b>Statewide Results</b>	<b>Formula</b>	<b>Value</b>		
RY 2018 Total Approved Permanent Revenue	A	\$16.3 billion		
Total CY17 PAU \$ % (Observed)	B	11.00%		
Total CY17 PAU \$	C	\$1.8 billion		
<b>Statewide Total Calculations</b>	<b>Formula</b>	<b>Total</b>	<b>RY 2018**</b>	<b>Net Adjustment</b>
Proposed RY19 Revenue Adjustment %	D	-1.75%	-1.45%	-0.30%
Proposed RY19 Revenue Adjustment \$	E=A*D	-\$285 million	-\$228 million	-\$56 million
Proposed RY19 Revenue Adjustment % of Total PAU \$	F=E/C	-15.9%		

\*Figures may not add due to rounding

\*\* -1.45% of RY 2018 Total Approved Permanent Revenue is -\$237 million; however, the figure cited (-\$228 million) is provided because this was -1.45% of RY 2017 Total Approved Permanent Revenue and therefore better reflects the actual proposed net dollar reduction to RY 2019 (-\$56 million).

## Hospital Protections

The Commission and stakeholders aim to ensure that hospitals that treat a higher proportion of disadvantaged patients have the needed resources for care delivery and improvement, while continuing to encourage improvements in the quality of care or care coordination for these patients. Due to these concerns, a protection policy was first approved in RY 2016. Under the RY 2018 PAU Savings Policy, the PAU payment reductions are capped at the state average for hospital that serve a high proportion of disadvantaged populations.<sup>5</sup> For future years, HSCRC staff is discussing adjusting or even phasing out this protection. However, given the potential revenue impact for affected hospitals and to allow time for further feedback, staff is recommending to continue the RY 2018 protection methodology for RY 2019. (For more information on staff and stakeholder considerations regarding protection under the PAU Savings

<sup>5</sup> The measure includes the percentage of Medicaid, Self-pay and Charity equivalent case-mix adjusted readmission discharges for inpatient and observation cases with 23 hours or longer stays, with protection provided to those hospitals in the top quartile.

Policy, please refer to the Supplemental Report on Efforts to Modernize PAU Measurement and Adjustment in Future Years).

Appendix V provides the resulting revenue adjustments of the PAU Savings policy based on the 0.30 percent annual reduction (1.75 percent total) in total hospital revenue with and without these protections.

### **Future Expansion of PAU**

HSCRC staff recommends evaluating expansion of PAU to incorporate additional categories of avoidable utilization, such as additional potentially avoidable admissions and/or low-value care. Over the next 8 months, staff will work to expand PAU and develop processes for continued expansion under the updated measure, while minimizing hospital measurement burden. Staff is also exploring the potential opportunity for hospitals to propose their own definitions and measurements of Potentially Avoidable Utilization, while noting the reporting burden and validation challenges that would be associated with such an effort. (For more information on staff and stakeholder considerations regarding expansion of the PAU measure in future years, please refer to the Supplemental Report on Efforts to Modernize PAU Measurement and Adjustment in Future Years).

## RESPONSES TO FEEDBACK

The Commission did not receive any comment letters in response to the RY2019 Draft PAU Savings Policy; however staff did receive substantial feedback from Commissioners Keane, Colmers, and Elliott and issues were also discussed at Performance Measurement Work Group. Some stakeholders did include concerns about PAU in the update factor response letters. Staff has addressed some of these below although the size of the PAU reduction is addressed in the update factor policy. In the future staff respectfully requests that stakeholders submit letters for the specific policies to ensure all comments are addressed.

### Clinical input and Hospital-defined PAU

**Comment:** Commissioner Colmers continues to recommend engaging the clinical community in identifying potential avoidable utilization through hospital-defined PAU Savings pilot programs, an idea that was originally suggested in the white paper authored by Commissioners Colmers and Keane. This proposed policy could initially be an experimental program, limited to a small number of hospitals with the capability and interest to be successful. By engaging clinicians in defining PAU, the hospital-defined PAU measure may better align with clinical decision-making and evidence-based practice, which may allow for both complexity and innovation that are not possible in a statewide program, such as focusing on identification of avoidable testing in a residency program. Commissioner Colmers suggested that some existing measures of PAU could be used, such as 30 day unplanned readmissions, in addition to new measures, providing hospitals the opportunity to assume additional financial risk as they focus on new and different ways of measuring potentially avoidable utilization.

#### **Staff response:**

Staff strongly agrees with Commissioner Colmers' focus on engaging the clinical community. Regardless of how hospital-defined PAU may be implemented, staff is committed to working with clinicians to understand how they view potentially avoidable utilization and what measures should be examined. HSCRC staff plans on meeting with clinicians over the next few months to guide measure selection, followed by discussion in a PAU subgroup, which will also encourage clinician participation.

While there were some initial concerns from hospitals and payers regarding self-identifying PAU, staff is committed to collaborating on hospital-defined PAU. Staff continues to request input from hospitals on their interest or concerns on this possible opportunity and how this could be implemented. Some of the implementation issues that will need to be addressed include verifying the accuracy of non-HSCRC data (such as through auditing or certification processes) and the potential impact on other hospitals. One potential solution may be to add an optional component on top of the statewide PAU Savings.

The optional program could be tied to the update factor. In order to drive success in achieving population health improvements and reducing avoidable and unnecessary utilization, new aggressive goals will need to be established. Some portion of inflation (say 0.50 percent) could

be set aside and only those hospitals adopting approved Bold Improvement Goals (BIG) with care partners would be eligible for that portion of inflation. For example, one hospital could commit to a thirty percent reduction in chronic obstructive pulmonary disease (COPD)-related admissions with interventions that start with early detection and prevention of COPD, disease and medication management supports, pulmonary rehabilitation, vaccines for pneumonia and flu, among others. Another hospital might commit to reduced hospitalizations for sepsis and related pneumonia and urinary tract infections or a reduction in diabetes and related conditions.

In this hospital-defined PAU pilot program or a PAU Innovation Laboratory, interested hospitals could test measures of potentially avoidable utilization that could ultimately be considered for statewide adoption. In exchange for accepting a BIG goal beyond the statewide savings program, hospitals participating in the program could receive higher inflation adjustments for adopting and achieving BIG goals.

### Measuring readmissions at the receiving hospital

**Concern:** Commissioners Colmers, Keane, and Elliott expressed concern that the PAU methodology measures readmissions revenue at the receiving hospital, rather than the index (sending) hospital. Of particular concern was an example wherein a patient may be discharged from a hospital in Baltimore City and readmitted to a hospital in Eastern Shore. In that scenario, it may be difficult for hospitals to coordinate and prevent the readmission. In addition, if a hospital discharges a patient after a surgery, it may be more appropriate for the sending hospital to be accountable for that patient rather than a community hospital.

#### Staff response:

In Rate Year 2017, HSCRC changed the PAU definition used in the savings policy to align it with the incentives of the GBR and with the PAU definition already in place in the market shift methodology. This definition changed the focus of the readmissions measure from “sending” hospitals to “receiving” hospitals. In other words, the updated PAU methodology calculates the revenue associated with unplanned readmissions that occur at the hospital, regardless of where the original (index) admission occurred. The reason for this change was because when a patient is readmitted to a hospital, the revenue from that hospital’s GBR is used to fund the cost associated with that readmission. Thus any reduction in readmissions generates savings only for the hospital that no longer bears the cost of providing services for the readmission, i.e. the receiving hospital, which is the incentive of the GBR methodology. Additionally, assigning readmissions to the receiving hospital should incentivize hospitals to work within their service areas to reduce readmissions, regardless of where the index stay took place. For example, many readmissions within a service area are due to chronic conditions, such as mental health, chronic obstructive pulmonary disease (COPD), and congestive heart failure (CHF); therefore are amenable to care management even if the patient was recently admitted at another hospital.

Staff have also analyzed the extent to which readmissions occur at the same index hospital or within the same primary service area or geographic area to assess how many readmissions may be more directly affected by hospitals. The analysis tested different hospital geographic areas:

receiving hospital primary service area<sup>6</sup>; receiving hospital primary service area-plus<sup>7</sup>; receiving hospital county;<sup>8</sup> and receiving hospital region.<sup>9</sup> Analysis of CY2017 PAU readmissions shows that statewide two-thirds of PAU readmissions are at the same sending and receiving hospital (48,210 readmits out of 71,903 readmits). PAU readmissions from the same sending and receiving hospital and/or from the hospital’s primary service area represent 83% of all PAU readmissions. When the analysis is expanded to the hospital’s regional geographic area, 94% of all PAU readmissions are from the same sending and receiving hospital and/or from the receiving hospital’s region.

There are regional differences when performing this analysis, as more densely populated areas with greater market saturation tend to have a lower percentage of readmits from the same index hospital - Baltimore County and Baltimore City are the lowest in the State at 59.8% of PAU readmissions occurring at the same sending and receiving hospital (See Figure 3). However, this regional variation sharply narrows when the comparison point is PAU readmissions from the same sending and receiving hospital and/or from the hospital’s primary service area (Hospitals in Baltimore County and Baltimore City: 77.7%), and the variation virtually disappears when comparing PAU readmissions from the same sending and receiving hospital and/or from the receiving hospital’s region (Hospitals in Baltimore County and Baltimore City: 91.8%).

**Figure 3: Regional Variation of Readmissions (% of CY2017 Total PAU readmits by Region)**

Region	Same* hospital	Same hospital and/or PSA	Same hospital and/or PSA-Plus	Same hospital and/or PSA-Plus or County	Same hospital and/or PSA-Plus or Region
	Same sending/receiving hospital	Same + readmits from receiving hospital primary service area (PSA)	Same + readmits from receiving additional PSA-plus (PSAP)	Same + readmits from receiving hospital PSAP or county	Same + readmits from receiving hospital PSA, county, or region
Baltimore County/Baltimore City	59.8%	77.7%	78.2%	86.3%	91.8%
Capitol Region <sup>a</sup>	63.5%	83.7%	84.2%	91.1%	95.7%
Central without Baltimore <sup>b</sup>	74.8%	86.9%	88.5%	91.2%	92.5%
Eastern Shore and Delaware <sup>c</sup>	81.3%	91.3%	92.4%	94.4%	98.2%
Frederick	84.9%	94.5%	96.1%	96.1%	96.1%
Harford, Cecil, and Kent	73.6%	87.5%	90.0%	94.5%	96.6%
Southern Maryland <sup>d</sup>	79.1%	87.8%	90.7%	90.7%	95.0%
Western MD and West Virginia <sup>e</sup>	91.8%	98.1%	98.2%	98.3%	99.1%
<b>Statewide</b>	<b>67.0%</b>	<b>83.0%</b>	<b>83.8%</b>	<b>89.7%</b>	<b>93.9%</b>

\*Same hospital indicates the same sending and receiving hospital

<sup>a</sup> Prince George’s, Montgomery, DC; <sup>b</sup> Howard, Carroll, Anne Arundel; <sup>c</sup> Kent, Queen Anne’s, Dorchester, Talbot, Wicomico, Worcester, Caroline, Somerset, Delaware; <sup>d</sup> Calvert, Charles, St Mary’s

<sup>6</sup>PSAs as defined in hospital global budget revenue agreements

<sup>7</sup> PSA-plus as developed to ensure PSAs captured all zip codes in the state

<sup>8</sup> County in which hospital is located

<sup>9</sup> Region in which hospital’s county is located. Regions were assigned as following: Baltimore County and Baltimore City, Central Maryland less Baltimore County/Baltimore City, Eastern Shore and Delaware, Western Maryland and West Virginia, Eastern Shore, Frederick, Cecil/Kent/Harford, Southern Maryland, and Capitol Region.

In addition to analysis of discharges, staff has also analyzed the extent to which revenue associated with readmissions occur at the same index hospital or within the same primary service area or geographic area. This analysis was performed to ensure that there is similar relationship between readmission discharges and revenue associated with readmissions since the PAU methodology is expressed in terms of revenue. (See Figure 4)

**Figure 4: Comparison between PAU Readmission Discharges and Revenue**

Step	Discharges			Revenue		
	Additional Step	Cumulative	Cumulative %	Additional Step	Cumulative	Cumulative %
Same* hospital	48210	48210	67.0%	\$762,472,904	\$762,472,904	66.0%
Same hospital and/or PSA	11462	59672	83.0%	\$182,411,370	\$944,884,274	81.8%
Same hospital and/or PSA-Plus	609	60281	83.8%	\$7,840,580	\$952,724,854	82.5%
Same hospital and/or PSA-Plus or County	4198	64479	89.7%	\$71,112,924	\$1,023,837,778	88.6%
Same hospital and/or PSA-Plus or Region	3010	67489	93.9%	\$45,248,703	\$1,069,086,481	92.6%
<b>Total</b>		<b>71903</b>	<b>100%</b>		<b>\$1,155,092,443</b>	<b>100%</b>

Staff recognize the Commissioners’ concerns around the receiving hospital aspect of the PAU methodology, but analysis shows that most PAU readmissions are from the same sending and receiving hospital, and when this analysis is expanded to include primary service area or a broader geographic area, the vast majority of readmissions are attributable to the receiving hospitals. Furthermore, the model must focus on all readmissions if the State is to reduce avoidable utilization and total cost of care. In addition, both the current PAU Savings Policy and Market Shift methodologies require measuring revenue at the receiving hospital. Under the Global Budget Revenue model, the fundamental idea is that hospitals that reduce PAU can retain that revenue and improve their financial standing while improving quality of care. Furthermore, staff believes that it is imperative for our statewide all-payer model to have incentives for hospitals to work outside of the hospital walls and with other hospitals to improve care and reduce avoidable utilization.

Staff acknowledges that holding receiving hospitals accountable for readmissions is a paradigm shift; however, staff believes this in keeping with the overall incentives of the GBR. Staff also believes that the receiving hospital methodology in the PAU Savings Policy balances well with the index hospital methodology in the Readmissions Reduction Incentive Program and maximizes incentives to reduce readmissions in the state. Based on staff analyses and reviews of the initial reasoning for the construct of the PAU methodology, staff recommends to keep the existing methodology for RY2019. As PAU measures are expanded and modernized, further alignment between readmissions and geographic areas will be explored.



## Use of Avoidable Admissions in PAU

**Concern:** In their Update Factor comment letter, Maryland Hospital Association expressed concern about the appropriateness of the current use of the Agency for Healthcare Research and Quality's Prevention Quality Indicators (PQIs, also known as avoidable admissions) as a percentage of a hospital's total revenue. Maryland Hospital Association notes that Prevention Quality Indicators were originally intended to measure the percentage of admissions for "ambulatory sensitive conditions" within a population, not as a percentage of hospital discharges. There may be unrelated reasons for changes in hospital discharge patterns that impact the overall number of discharges. While the Maryland Hospital Association letter notes staff efforts to address this concern, the letter also recommends eliminating the revenue reduction associated with avoidable admissions as a solution in the interim.

### Staff Response:

HSCRC continues to recommend the use of avoidable admissions and readmissions in the RY2019 policy. As Maryland moves forward toward implementation of the Total Cost of Care Model and the Maryland Primary Care Program component, increased focus on avoidable admissions will be critical to the success of population health improvement and improved chronic care. While the staff agrees to work with stakeholder to address the best ways to use the measures, there is a clear need to increase the performance requirements for avoidable admissions. As the Maryland Hospital Association noted, it is essential to examine PAU measurement in future years to address stakeholder measurement concerns and to expand the measures to include additional categories of avoidable admissions and utilization. The Commission can explore using geographic methods in PAU as a population-level denominator for readmissions and avoidable admissions. However, this change might require a shift from a revenue-based measure to a discharge-per capita measure, which would require additional steps to translate to revenue. The impact of these changes on other methodologies, such as Market Shift and Demographic Adjustment, will need to be addressed, since these three policy areas are related. Staff plans on working through some of these technical issues with a PAU subgroup over the summer and fall months and with the Performance Measure Work Group over the next year.

Finally, staff notes that removing avoidable admissions from the PAU methodology would not eliminate a revenue reduction, as requested by the Maryland Hospital Association. The total statewide revenue reduction of 1.75% of permanent revenue (-0.3% net) will stay the same, regardless of whether avoidable admissions revenue is included or not, because a reduction of revenue of this magnitude is warranted in a model that is focused on reducing avoidable and unnecessary utilization as a core model component and measure of success.<sup>10</sup> Moreover, the State's contract with the Centers for Medicare and Medicaid Services (CMS) requires that its quality programs have savings in excess of national programs, and eliminating the PAU reduction proportional to revenue associated with avoidable admissions would imperil the State's ability to meet this metric. Also, it should be noted that eliminating avoidable admissions

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<sup>10</sup> The total cost of care guardrail requires that Maryland fee-for-service Medicare beneficiaries per capita cannot have cost growth greater than the nation in consecutive years and cannot exceed national growth by 1% in any year.



revenue would require a larger reduction of the readmissions revenue to achieve the reduction of 1.75% total revenue, which would effectively redistribute the revenue reduction differently across hospitals.

## PAU Denominator

**Concern:** Commissioner Keane expressed concern that the denominator used in the PAU percent of revenue measure represented total revenue rather revenue associated with inpatient and observation stays greater than 23 hours. The concern was that there was revenue in the denominator that was not eligible to be considered PAU in the numerator, which could arbitrarily impact a hospital’s revenue adjustment.

### Staff Response:

After further consideration, staff does not believe there is a significant denominator issue; however, staff does note that the protection<sup>11</sup> in the methodology, which redistributes approximately 3.4% of the entire PAU reduction (\$9.5 million of the \$285 million reduction), is affected by what revenue denominator is used. Staff analyzed and presented this concern in depth to Performance Measurement Work Group and to Commissioner Keane. Analysis showed that prior to the protection, the denominator does not affect a hospital’s PAU reduction because while PAU is expressed as a rate of total revenue or inpatient revenue, it is then multiplied by the selected denominator to equal the same value.

Figure 5 below presents examples to illustrate this issue. For both the basic and hospital examples, the CY2017 PAU percentage of revenue (D) is calculated using the hospital CY2017 PAU revenue (B) divided by hospital’s CY2017 \$ revenue (C). The hospital’s percent of PAU revenue (D) is applied to the hospital’s permanent revenue (A) to estimate the PAU revenue in the following year (E). The estimated PAU revenue (E) is multiplied by the percent required PAU reduction (F). As long as the revenue numbers for A and C are aligned (both total revenue or both inpatient only revenue), there is no effect on the pre-protection adjustment.

Figure 5: PAU denominator examples

		Basic example Total \$	Basic example Inpatient + Obs > 23 hrs \$	Hospital example \$ Total	Hospital example Inpatient + Obs > 23 hrs \$
Ry18 Permanent revenue	A	\$100	\$50	\$187 million	\$119 million
Hosp CY17 PAU \$	B	\$10	\$10	\$30 million	\$30 million
Hosp CY17 \$	C	\$100	\$50	\$197 million	\$125 million
Hosp CY17 PAU %	D=B/C	10%	20%	15.4%	24.3%
Estimated PAU \$	E=D*A	\$10	\$10	\$28.8 million	\$28.8 million
RY18 PAU Revenue Reduction %	F	-15.9%	-15.9%	-15.9%	-15.9%
Pre protection adjustment (\$)	G=E*F	-\$1.59	-\$1.59	-\$4.6 million	-\$4.6 million

<sup>11</sup> Hospitals in the top quartile of Medicaid, self-pay and charity case-mix adjusted discharges are eligible for protection.

As previously mentioned, the denominator does have an impact on the post-protection adjustments in PAU. This is because the amount of protection received by hospitals who are eligible for protection depends on the percentage variance between the hospital PAU percent of revenue and the statewide percent of PAU revenue. The ratio of inpatient to outpatient revenue at a protected hospital may impact this variance, resulting in a redistribution of approximately \$2 million dollars in revenue statewide when inpatient revenue is used as denominator. As aforementioned, the total protection is approximately \$9.5 million statewide.

Initially, staff developed protection based on total revenue rather than inpatient revenue since the total financial impact on affected hospitals is of concern and the current measures include some outpatient PAUs. Staff does not recommend altering the methodology at this time. Moving forward staff plans to garner its resources to expand the definition of PAU, including additional services provided in a hospital outpatient setting,

### Inpatient focus of current PAU Measure

**Concern:** Commissioners Keane and Colmers, as well as CareFirst in the Performance Measurement Work Group, expressed concern that PAU is limited largely to inpatient experience. There is additional unnecessary utilization in the system that hospitals may feel they have a greater ability to manage and reduce. In addition, hospitals with larger inpatient to outpatient revenue may feel more of their revenue is being captured in PAU compared to other hospitals.

**Staff response:** Staff agrees with these concerns, and is committed to expanding PAU through “expanding the numerator”, as outlined in the PAU Supplemental Report included in the Draft RY2019 PAU Savings Policy. Expanding the numerator may include measures to quantify potentially low value care as well as additional measures for population health that capture a larger degree of outpatient hospital care. However, for these additional measures to be robust and meaningful in the clinical setting, strong clinical partnerships and consumer dialogues are necessary. For these measures to be impactful in changing hospital/clinician behavior, the performance measures should be known prior to the performance period. Staff aims for new PAU measures to be incorporated into reporting by early Calendar Year 2019 so hospitals can monitor progress throughout the performance period. However, if stakeholders are comfortable including these measures as part of calendar year 2018 performance, staff does not foresee any problems with implementing these measures for RY2020 PAU savings adjustment, even though the performance period will be largely concluded. While staff understands that this plan does not immediately address and ameliorate concerns around the current methodology; it provides a roadmap for a collaborative process for the future.

## RECOMMENDATIONS

Staff recommends the following for the Potentially Avoidable Utilization (PAU) Savings policy for RY 2019:

1. Increase the net PAU reduction by 0.30%, which would be a cumulative PAU reduction of 1.75%, compared to the 1.45% reduction in RY 2018.
2. Cap the PAU Savings reduction at the statewide average reduction for hospitals with higher socioeconomic burden; however, solicit input on phasing out or adjusting for subsequent years
3. Evaluate expansion and refinement of the PAU measure to incorporate additional categories of potentially avoidable admissions and potentially low-value care.

## LIST OF ABBREVIATIONS

ARR	Admission-Readmission Revenue Program
CMS	Centers for Medicare & Medicaid Services
CY	Calendar year
ECMAD	Equivalent case-mix adjusted discharge
GBR	Global budget revenue
HRRP	Hospital Readmissions Reduction Program
HSCRC	Health Services Cost Review Commission
PAU	Potentially avoidable utilization
PQI	Prevention quality indicators
PSA-Plus	Primary Service Area-Plus
RRIP	Readmissions Reduction Incentive Program
RY	Rate year
TPR	Total patient revenue

## APPENDIX I. PAU MEASURE SPECIFICATION

The measure of potentially avoidable utilization (PAU) used in the PAU Savings Policy is calculated as the percentage of total hospital inpatient and outpatient revenue attributed to PAU at each hospital. The PAU measure is comprised of the revenue from readmissions and Prevention Quality Indicators (PQIs). Under the PAU logic, readmissions are calculated first, followed by PQIs, so the revenue from a hospitalization flagged as both a readmission and a PQI would only be counted once in PAU.

Readmissions are admissions to a hospital (defined as inpatient admission or observation stay greater than 23 hours) within a specified time period after a discharge from the same or another hospital. In the PAU measure, readmissions are specified as 30-day, all-payer, all-cause readmissions at the receiving hospital with exclusions for planned admissions. The PAU methodology calculates the percentage of revenue associated with readmissions that occur at the hospital receiving the readmission, regardless of where the original (index) admission occurred.

Hospitalizations for ambulatory-care sensitive conditions are measured by the Agency for Health Care Research and Quality's Prevention Quality Indicators (PQIs). In the PAU measure, PQIs are measured on inpatient admissions and observation stays greater than 23 hours for ambulatory care sensitive conditions. For more information on these measures, see [http://www.qualityindicators.ahrq.gov/modules/pqi\\_overview.aspx](http://www.qualityindicators.ahrq.gov/modules/pqi_overview.aspx).

## **APPENDIX II. BACKGROUND AND HISTORY OF PAU SAVINGS POLICY**

### **I. Importance of measuring potentially avoidable utilization**

The United States ranks behind most countries on many measures of health outcomes, quality, and efficiency. Physicians may face particular difficulties in receiving timely information, coordinating care, and dealing with administrative burden. Enhancements in chronic care— with a focus on prevention and treatment in the office, home, and long-term care settings—are essential to improving indicators of healthy lives and health equity. As a consequence of inadequate chronic care and care coordination, the healthcare system currently experiences an unacceptably high rate of preventable hospital admissions and readmissions.

### **II. Potentially Avoidable Utilization in the All-Payer Model**

Under the Maryland All-Payer Model, the State aims to demonstrate that an all-payer system with accountability for the total cost of hospital care is an effective model for advancing better care, better health, and reduced costs. A central focus of the All-Payer Model is the reduction of PAU through improved care coordination and enhanced community-based care. While hospitals have achieved significant progress in transforming the delivery system to date, there needs to be continued emphasis on care coordination, improving quality of care, and providing care management, especially for complex and high-needs patients.

A central tenet of the Maryland All-Payer Model is that hospitals are funded under Global Budget Revenue (GBR), which are flexible annual revenue caps. The GBR system assumes that hospitals will reduce potentially avoidable utilization in line with the GBR incentive that allows hospitals to retain a portion of revenue while reducing unnecessary utilization/cost. The PAU Policy prospectively reduces hospital GBRs in anticipation of those cost reductions. All hospitals contribute to the statewide potentially avoidable utilization savings; however, each hospital's reduction is proportional to their percent of potentially avoidable utilization revenue. In contrast to HSCRC's other quality programs that reward or penalize hospitals based on performance, the PAU Savings policy is intentionally designed to assure savings to payers and reduce costs for consumers.

It is also important to note that under the Maryland All-Payer Model, Maryland is exempt from the federal Medicare quality-based payment programs if the aggregate amount of revenue at-risk in Maryland performance-based payment programs is equal to or greater than the aggregate amount of revenue at-risk in the CMS Medicare quality programs. The PAU savings adjustment is one of the performance-based programs used for this comparison.

### **III. History of the Potentially Avoidable Utilization (PAU) Savings Program**

Under the state's previous Medicare waiver, the Commission approved a savings policy on May 1, 2013, which reduced hospital revenues based on case-mix adjusted readmission rates using

specifications from HSCRC's Admission-Readmission Revenue (ARR) Program.<sup>12</sup> Most hospitals in the state participated in the ARR program, which incorporated 30-day readmissions into a hospital episode rate per case, or in the Total Patient Revenue (TPR) system, a global budget for more rural hospital settings. With the implementation of ARR and the advent of global budgets, HSCRC created a policy to ensure payers received similar savings to those that would have been expected from the federal Medicare Hospital Readmissions Reduction Program (HRRP). Unlike the federal program, which provides savings to payers by avoiding readmissions, Maryland requires a separate policy, as global budgets "lock in" savings into hospital budgets. Under the All-Payer Model, the Commission continues to use the savings adjustment to ensure a focus on reducing readmissions, ensure savings to purchasers, and meet exemption requirements for revenue at-risk under Maryland's value-based programs.

For RY14 and RY15, HSCRC calculated hospital-specific case-mix adjusted readmission rates based on ARR specifications for the previous CY.<sup>13</sup> The statewide savings percentage was converted to a required reduction in readmission rates, and each hospital's contribution to savings was determined by its case-mix adjusted readmission rates. Based on a 0.20 percent increase in annual savings, the reduction percentage was 0.40 percent of total revenue in RY15.

In RY16, HSCRC updated the savings reduction methodology to use the case-mix adjusted readmission rate based on Readmissions Reduction Incentive Program (RRIP) specifications.<sup>14</sup> The total reduction percentage was 0.60 percent of total revenue in RY16. The Commission also added a protection capping the revenue reduction at the statewide average for hospitals above the 75th percentile on the percentage of adult Medicaid discharges.

For RY17, the Commission expanded the savings policy to align the measure with the potentially avoidable utilization (PAU) definition, incorporating both readmissions and admissions for ambulatory care sensitive conditions as measured by the Agency for Health Care Research and Quality's Prevention Quality Indicators (PQIs). (See Appendix II for specifications) Aligning the measure with the PAU definition changed the focus of the readmissions measure from "sending" hospitals to "receiving" hospitals. In other words, the updated methodology calculated the percentage of hospital revenue associated with readmissions, regardless of where the original (index) admission occurred. Assigning readmissions to the receiving hospital should incentivize hospitals to work within their service areas to reduce readmissions, regardless of where the index stay took place. Additionally, hospital savings from reducing readmissions will accrue to the receiving hospital. Finally, aligning the readmission measure with the PAU definition enabled the measure to include observation stays above 23 hours in the calculation of readmissions and PQIs. In RY17, the Commission increased the reduction percentage to 1.25% of total revenue.

In RY 2018, the Commission continued the RY17 methodology and increased the amount of the reduction to 1.45% of total revenue.

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<sup>12</sup> A readmission is an admission to a hospital within a specified time period after a discharge from the same or another hospital.

<sup>13</sup> Only same-hospital readmissions were counted, and stays of one day or less and planned admissions were excluded.

<sup>14</sup> This measures 30-day all-cause, all hospital readmissions with planned admission and other exclusions.

### APPENDIX III. ANALYSIS OF PQI TRENDS

PQIs—developed by the Agency for Healthcare Research and Quality—measure inpatient admissions for ambulatory care sensitive conditions. The following figure presents an analysis of the change in PQI discharges between CYs 2016 and 2017 using version 7 of the PQI software for both years.<sup>15</sup> The numbers presented below do not include discharges that were also flagged as a 30-day readmission. From 2016 to 2017, there were improvements in the overall PQI composite (PQI 90) and acute composite (PQI 91), but increases in the chronic composite (PQI 92). Large reductions in community-acquired pneumonia (PQI 11) appear to be driving the acute composite improvement. The diabetes composite (PQI 93) experienced increases, while individual diabetes-related PQIs (PQIs 1, 3, 14, 16) appear to have large fluctuations, suggesting that changes in individual diabetes-related PQIs may reflect coding differences for patients with diabetes rather than a change in admissions.

Appendix III. Figure 1. PQI Trends, CY 2016-CY 2017

PQI Admission Rate	CY16 PQIs	CY17 PQIs	CY16-17 % Change	CY16-17 PQI	CY17 % CONTRIBUTION
	A	B	C=B/A-1	D=B-A	
<b>PQI 90 Overall Composite (Unduplicated)</b>	63505	62328	-1.9%	-1177	100.00%
<b>PQI 91 Acute Composite (PQIs 2, 10, 11, 12)</b>	24310	20857	-14.2%	-3453	33.46%
<b>PQI 92 Chronic Composite (PQIs 1,3,5,7,8,14,15,16)</b>	39197	41475	5.8%	2278	66.54%
<b>PQI 93 Diabetes composites (PQIs 1,3,14,16)</b>	8028	8590	7.0%	562	13.78%
<b>PQI 01 Diabetes Short-Term Complications</b>	2997	1766	-41.1%	-1231	2.83%
<b>PQI 02 Perforated Appendix</b>	1209	1202	-0.6%	-7	1.93%
<b>PQI 03 Diabetes Long-Term Complications</b>	3536	4316	22.1%	780	6.92%
<b>PQI 05 COPD or Asthma in Older Adults</b>	12909	14041	8.8%	1132	22.53%
<b>PQI 07 Hypertension</b>	2320	3206	38.2%	886	5.14%
<b>PQI 08 Heart Failure</b>	15014	14734	-1.9%	-280	23.64%
<b>PQI 10 Dehydration</b>	7372	7022	-4.7%	-350	11.27%
<b>PQI 11 Community-Acquired Pneumonia</b>	9207	6845	-25.7%	-2362	10.98%
<b>PQI 12 Urinary Tract Infection</b>	7731	6990	-9.6%	-741	11.21%
<b>PQI 14 Uncontrolled Diabetes</b>	2196	2048	-6.7%	-148	3.29%
<b>PQI 15 Asthma in Younger Adults</b>	928	905	-2.5%	-23	1.45%
<b>PQI 16 Lower-Extremity Amputation among Patients w/ Diabetes</b>	859	1006	17.1%	147	1.61%

<sup>15</sup> AHRQ updated to PQI software version 7 in October 2017. The major changes in version 7 include a correction to an incorrect decrease in PQI 07 (Hypertension) under ICD-10.



**APPENDIX IV. PERCENT OF REVENUE IN PAU BY HOSPITAL**

The following figure presents the preliminary total non-PAU revenue for each hospital, total PAU revenue by PAU category (PQI, readmissions, and total), total hospital revenue, and PAU as a percentage of total hospital revenue for CY 2017. Overall, PAU revenue comprised 11.00 percent of total statewide hospital revenue.

**Appendix IV. Figure 1. PAU Percentage of Total Revenue by Hospital, CY 2017**

Hosp ID	Hospital Name	Non-PAU Revenue A	Readmission Revenue B	PQI Revenue C	Total PAU Revenue D=B+C	Total Hospital Revenue E=A+D	% Readmission F=B/E	% PQI G=C/E	% PAU H=F+G
210001	Meritus	\$285,635,783	\$25,133,325	\$19,360,795	\$44,494,120	\$330,129,902	7.61%	5.86%	13.48%
210002	UMMC	\$1,508,208,262	\$105,633,803	\$32,837,109	\$138,470,912	\$1,646,679,175	6.41%	1.99%	8.41%
210003	UM-PGHC	\$257,166,795	\$26,032,263	\$15,523,672	\$41,555,934	\$298,722,730	8.71%	5.20%	13.91%
210004	Holy Cross	\$456,540,898	\$37,974,537	\$17,771,656	\$55,746,193	\$512,287,091	7.41%	3.47%	10.88%
210005	Frederick	\$301,668,381	\$26,139,960	\$23,078,215	\$49,218,175	\$350,886,556	7.45%	6.58%	14.03%
210006	UM-Harford	\$88,978,098	\$10,527,917	\$7,108,832	\$17,636,749	\$106,614,847	9.87%	6.67%	16.54%
210008	Mercy	\$502,751,428	\$18,289,611	\$9,991,886	\$28,281,497	\$531,032,925	3.44%	1.88%	5.33%
210009	Johns Hopkins	\$2,204,647,494	\$168,753,132	\$47,311,261	\$216,064,393	\$2,420,711,887	6.97%	1.95%	8.93%
210010	UM-Dorchester	\$41,315,427	\$4,373,241	\$3,726,824	\$8,100,065	\$49,415,493	8.85%	7.54%	16.39%
210011	St Agnes	\$368,998,271	\$35,227,134	\$28,156,897	\$63,384,031	\$432,382,302	8.15%	6.51%	14.66%
210012	Sinai	\$708,583,403	\$42,755,341	\$26,496,911	\$69,252,252	\$777,835,655	5.50%	3.41%	8.90%
210013	Bon Secours	\$86,290,727	\$15,222,821	\$6,306,890	\$21,529,711	\$107,820,438	14.12%	5.85%	19.97%
210015	MedStar Fr Sq	\$446,053,268	\$44,458,713	\$31,801,020	\$76,259,733	\$522,313,001	8.51%	6.09%	14.60%
210016	Wash Adventist	\$235,717,043	\$21,274,073	\$15,251,230	\$36,525,303	\$272,242,346	7.81%	5.60%	13.42%
210017	Garrett	\$50,771,448	\$1,441,521	\$2,951,096	\$4,392,618	\$55,164,066	2.61%	5.35%	7.96%
210018	MedStar Mont	\$158,627,803	\$13,161,523	\$8,562,915	\$21,724,438	\$180,352,241	7.30%	4.75%	12.05%
210019	Peninsula	\$400,062,315	\$28,311,939	\$18,732,668	\$47,044,607	\$447,106,921	6.33%	4.19%	10.52%
210022	Suburban	\$284,225,507	\$19,974,015	\$11,474,076	\$31,448,091	\$315,673,599	6.33%	3.63%	9.96%
210023	Anne Arundel	\$563,963,503	\$28,055,312	\$25,670,593	\$53,725,904	\$617,689,407	4.54%	4.16%	8.70%



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Hosp ID	Hospital Name	Non-PAU Revenue A	Readmission Revenue B	PQI Revenue C	Total PAU Revenue D=B+C	Total Hospital Revenue E=A+D	% Readmission F=B/E	% PQI G=C/E	% PAU H=F+G
210024	MedStar Union	\$386,130,697	\$29,198,790	\$21,958,089	\$51,156,878	\$437,287,575	6.68%	5.02%	11.70%
210027	Western MD	\$293,906,629	\$21,467,836	\$15,943,973	\$37,411,809	\$331,318,439	6.48%	4.81%	11.29%
210028	MedStar St Mary's	\$169,323,830	\$10,878,237	\$12,607,911	\$23,486,148	\$192,809,978	5.64%	6.54%	12.18%
210029	JH Bayview	\$577,888,000	\$48,978,507	\$27,988,007	\$76,966,514	\$654,854,514	7.48%	4.27%	11.75%
210030	UM-Chestertown	\$50,476,187	\$3,770,763	\$2,959,617	\$6,730,380	\$57,206,567	6.59%	5.17%	11.77%
210032	Union of Cecil	\$142,783,495	\$9,029,343	\$9,869,614	\$18,898,957	\$161,682,452	5.58%	6.10%	11.69%
210033	Carroll	\$196,283,058	\$19,719,790	\$19,221,881	\$38,941,671	\$235,224,728	8.38%	8.17%	16.56%
210034	MedStar Harbor	\$166,678,135	\$18,508,974	\$11,866,820	\$30,375,794	\$197,053,929	9.39%	6.02%	15.41%
210035	UM-Charles	\$132,285,309	\$10,199,409	\$8,876,416	\$19,075,825	\$151,361,134	6.74%	5.86%	12.60%
210037	UM-Easton	\$187,936,924	\$11,959,083	\$7,130,502	\$19,089,585	\$207,026,509	5.78%	3.44%	9.22%
210038	UMMC Midtown	\$205,010,123	\$22,137,629	\$12,508,789	\$34,646,418	\$239,656,541	9.24%	5.22%	14.46%
210039	Calvert	\$131,851,278	\$7,432,032	\$9,381,184	\$16,813,217	\$148,664,495	5.00%	6.31%	11.31%
210040	Northwest	\$220,634,165	\$20,973,251	\$20,983,989	\$41,957,240	\$262,591,404	7.99%	7.99%	15.98%
210043	UM-BWMC	\$359,937,624	\$35,289,232	\$25,385,675	\$60,674,906	\$420,612,531	8.39%	6.04%	14.43%
210044	GBMC.	\$436,186,478	\$21,761,845	\$14,941,737	\$36,703,582	\$472,890,060	4.60%	3.16%	7.76%
210045	McCready	\$16,060,388	\$395,109	\$1,007,695	\$1,402,804	\$17,463,192	2.26%	5.77%	8.03%
210048	Howard County	\$269,141,884	\$23,253,196	\$15,978,249	\$39,231,445	\$308,373,330	7.54%	5.18%	12.72%
210049	UM-UCH	\$306,611,923	\$21,116,740	\$16,547,776	\$37,664,516	\$344,276,439	6.13%	4.81%	10.94%
210051	Doctors	\$196,035,947	\$22,818,963	\$18,452,713	\$41,271,676	\$237,307,623	9.62%	7.78%	17.39%
210055	UM-Laurel	\$90,514,175	\$6,139,260	\$4,720,686	\$10,859,945	\$101,374,120	6.06%	4.66%	10.71%
210056	MedStar Good Sam	\$247,584,496	\$28,568,836	\$22,314,062	\$50,882,898	\$298,467,394	9.57%	7.48%	17.05%
210057	Shady Grove	\$359,105,683	\$27,052,951	\$15,010,190	\$42,063,140	\$401,168,823	6.74%	3.74%	10.49%
210058	UMROI	\$125,099,231	\$124,314		\$124,314	\$125,223,545	0.10%	0.00%	0.10%
210060	Ft. Washington	\$41,616,978	\$2,492,557	\$4,544,704	\$7,037,260	\$48,654,238	5.12%	9.34%	14.46%
210061	Atlantic General	\$98,901,133	\$4,484,808	\$5,473,522	\$9,958,330	\$108,859,464	4.12%	5.03%	9.15%

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Hosp ID	Hospital Name	Non-PAU Revenue A	Readmission Revenue B	PQI Revenue C	Total PAU Revenue D=B+C	Total Hospital Revenue E=A+D	% Readmission F=B/E	% PQI G=C/E	% PAU H=F+G
210062	MedStar Southern	\$226,782,753	\$24,750,327	\$20,738,341	\$45,488,667	\$272,271,421	9.09%	7.62%	16.71%
210063	UM-St. Joseph	\$384,002,900	\$20,708,579	\$11,795,139	\$32,503,718	\$416,506,618	4.97%	2.83%	7.80%
210064	Levindale	\$54,110,621	\$4,174,995		\$4,174,995	\$58,285,616	7.16%	0.00%	7.16%
210065	HC-Germantown	\$84,357,920	\$7,153,030	\$5,277,822	\$12,430,852	\$96,788,772	7.39%	5.45%	12.84%
	<b>STATEWIDE</b>	<b>\$15,149,341,051</b>	<b>\$1,157,278,565</b>	<b>\$715,599,646</b>	<b>\$1,872,878,211</b>	<b>\$17,022,219,263</b>	6.80%	4.20%	11.00%

**APPENDIX V. Modeling Results Proposed PAU Savings Policy Reductions for RY 2019**

The following figure presents the proposed PAU savings adjustments for each hospital for RY 2019. The hospital’s CY17 PAU percent (column B) is multiplied by the statewide required percent revenue adjustment (statewide proposed revenue reduction divided by the statewide CY17 PAU %) to calculate the RY19 PAU Savings Adjustment before protections (columns C and D). If hospitals are in the top quartile of hospitals with equivalent case-mix adjusted discharges of Medicaid, Self-Pay, and Charity (column E), the adjustment is capped at the statewide average reduction. The RY19 PAU Savings Adjustments after protections (columns F and G) are then adjusted to account for the additional revenue reductions necessary to match the statewide revenue reduction (columns H and I). Because last year’s revenue reductions are reversed (column J) and the new PAU adjustments are entered into the update factor, the difference between the RY19 and RY18 revenue adjustments represent the net revenue impact to the RY19 update factor. (Columns K and L). For some hospitals, the net RY19 revenue adjustment may not be negative when the RY18 adjustment is reversed and the RY19 adjustment is included.

**Appendix V. Figure 1. Proposed PAU Savings Policy Reductions for RY 2019, by Hospital**

Hosp ID	Hospital Name	RY18 Permanent Total Revenue (\$) A	CY17 PAU % B	RY19 PAU Savings Adj. C=B* -15.91 <sup>16</sup>	RY19 PAU Savings Adj. Before Protections D = A*C	CY17 % ECMAD IP Medicaid/ Self-Pay Charity E	RY19 PAU Adj. w/ Protection (%) F	RY19 PAU Adj. w/ Protections Revenue (\$) G = A*F	RY19 PAU Adj. w/ Protections Revenue (\$) H=G + (0.06%*A) <sup>17</sup>	RY19 PAU Adj. w/ Protection (%) I=H/A	RY18 PAU Savings Adj. w/ Protection (\$) J	Net RY19 Revenue Impact (%) K = (H-G)/A	Net RY19 Revenue Impact (\$) L=K*C
210001	Meritus	\$321,955,560	13.48%	-2.14%	-\$6,901,737	19.00%	-2.14%	-\$6,901,737	-\$7,083,787	-2.20%	-\$5,520,664	-0.49%	-\$1,563,094
210002	UMMC	\$1,399,559,924	8.41%	-1.34%	\$18,719,134	30.59%	-1.34%	\$18,719,134	\$19,510,514	-1.39%	\$13,498,782	-0.43%	-\$6,011,110
210003	UM-PGHC	\$287,707,710	13.91%	-2.21%	-\$6,365,917	43.10%	-1.75%	-\$5,034,885	-\$5,197,569	-1.81%	-\$4,324,396	-0.30%	-\$873,193
210004	Holy Cross	\$489,724,686	10.88%	-1.73%	-\$8,476,147	22.46%	-1.73%	-\$8,476,147	-\$8,753,062	-1.79%	-\$7,893,731	-0.18%	-\$859,467
210005	Frederick	\$338,085,918	14.03%	-2.23%	-\$7,542,765	7.41%	-2.23%	-\$7,542,765	-\$7,733,936	-2.29%	-\$5,067,592	-0.79%	-\$2,666,484
210006	UM-Harford	\$102,314,327	16.54%	-2.63%	-\$2,692,043	18.38%	-2.63%	-\$2,692,043	-\$2,749,897	-2.69%	-\$2,524,681	-0.22%	-\$225,194
210008	Mercy	\$516,410,170	5.33%	-0.85%	-\$4,374,419	24.93%	-0.85%	-\$4,374,419	-\$4,666,423	-0.90%	-\$3,663,552	-0.19%	-\$1,002,869

<sup>16</sup> Required % revenue adjustment in PAU revenue= Savings (-1.75%) / % PAU (11.00%) = -15.91%

<sup>17</sup> Adjustment to ensure statewide reduction after protection = -1.75 – -1.69% = -0.06%

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Hosp ID	Hospital Name	RY18 Permanent Total Revenue (\$)	CY17 PAU %	RY19 PAU Savings Adj.	RY19 PAU Savings Adj. Before Protections	CY17 % ECMAD IP Medicaid/ Self-Pay Charity	RY19 PAU Adj. w/ Protection (%)	RY19 PAU Adj. w/ Protections Revenue (\$)	RY19 PAU Adj. w/ Protections Revenue (\$)	RY19 PAU Adj. w/ Protections Revenue (\$)	RY19 PAU Adj. w/ Protections Revenue (\$)	RY18 PAU Savings Adj. w/ Protection (\$)	Net RY19 Revenue Impact (%)	Net RY19 Revenue Impact (\$)
		A	B	C=B*-15.91 <sup>16</sup>	D = A*C	E	F	G = A*F	H=G + (0.06%*A) <sup>17</sup>	I=H/A	J	K = (H-G)/A	L=K*C	
210009	Hopkins	\$2,352,963,223	8.93%	-1.42%	\$33,404,112	23.40%	-1.42%	\$33,404,112	\$34,734,594	-1.48%	\$26,672,300	-0.34%	-\$8,061,252	
210010	Dorchester	\$49,226,292	16.39%	-2.61%	-\$1,283,415	25.53%	-1.75%	-\$861,460	-\$889,295	-1.81%	-\$725,744	-0.33%	-\$163,530	
210011	St Agnes	\$422,820,202	14.66%	-2.33%	-\$9,858,535	23.66%	-2.33%	-\$9,858,535	\$10,097,618	-2.39%	-\$8,072,607	-0.48%	-\$2,024,886	
210012	Sinai	\$752,409,746	8.90%	-1.42%	\$10,654,796	24.29%	-1.42%	\$10,654,796	\$11,080,246	-1.47%	-\$9,124,538	-0.26%	-\$1,955,513	
210013	Bon Secours	\$115,902,722	19.97%	-3.18%	-\$3,681,081	60.30%	-1.75%	-\$2,028,298	-\$2,093,835	-1.81%	-\$1,723,772	-0.32%	-\$370,077	
210015	Franklin Sq	\$522,059,009	14.60%	-2.32%	\$12,123,520	27.09%	-1.75%	-\$9,136,033	-\$9,431,231	-1.81%	-\$7,430,356	-0.38%	-\$2,001,052	
210016	Wash Adventist	\$265,729,172	13.42%	-2.13%	-\$5,670,509	30.89%	-1.75%	-\$4,650,261	-\$4,800,517	-1.81%	-\$3,898,038	-0.34%	-\$902,416	
210017	Garrett	\$54,328,266	7.96%	-1.27%	-\$688,078	16.09%	-1.27%	-\$688,078	-\$718,798	-1.32%	-\$605,944	-0.21%	-\$112,840	
210018	Montgomery	\$172,101,071	12.05%	-1.92%	-\$3,297,276	15.60%	-1.92%	-\$3,297,276	-\$3,394,590	-1.97%	-\$2,812,121	-0.34%	-\$582,390	
210019	Peninsula	\$431,713,670	10.52%	-1.67%	-\$7,225,018	18.08%	-1.67%	-\$7,225,018	-\$7,469,130	-1.73%	-\$6,792,718	-0.16%	-\$676,495	
210022	Suburban	\$313,631,832	9.96%	-1.58%	-\$4,969,593	8.62%	-1.58%	-\$4,969,593	-\$5,146,936	-1.64%	-\$4,484,669	-0.21%	-\$662,390	
210023	Anne Arundel	\$609,013,273	8.70%	-1.38%	-\$8,425,293	12.05%	-1.38%	-\$8,425,293	-\$8,769,659	-1.44%	-\$6,881,944	-0.31%	-\$1,887,941	
210024	Union Mem	\$421,547,476	11.70%	-1.86%	-\$7,843,828	19.08%	-1.86%	-\$7,843,828	-\$8,082,192	-1.92%	-\$5,756,652	-0.55%	-\$2,325,677	
210027	Western MD	\$320,642,519	11.29%	-1.80%	-\$5,758,759	14.49%	-1.80%	-\$5,758,759	-\$5,940,066	-1.85%	-\$4,712,416	-0.38%	-\$1,227,740	
210028	St Mary's	\$177,161,733	12.18%	-1.94%	-\$3,432,392	19.88%	-1.94%	-\$3,432,392	-\$3,532,568	-1.99%	-\$2,736,037	-0.45%	-\$796,519	
210029	JH Bayview	\$647,476,458	11.75%	-1.87%	\$12,103,909	29.09%	-1.75%	\$11,330,838	\$11,696,953	-1.81%	-\$9,362,447	-0.36%	-\$2,334,800	
210030	Chestertown	\$55,473,722	11.77%	-1.87%	-\$1,038,068	12.42%	-1.87%	-\$1,038,068	-\$1,069,436	-1.93%	-\$1,117,206	0.09%	\$47,763	

Final Recommendations for the RY19 Potentially Avoidable Utilization Savings Policy

Hosp ID	Hospital Name	RY18 Permanent Total Revenue (\$)	CY17 PAU %	RY19 PAU Savings Adj.	RY19 PAU Savings Adj. Before Protections	CY17 % ECMAD IP Medicaid/ Self-Pay Charity	RY19 PAU Adj. w/ Protection (%)	RY19 PAU Adj. w/ Protections Revenue (\$)	RY19 PAU Adj. w/ Protections Revenue (\$)	RY19 PAU Adj. w/ Protections Revenue (\$)	RY19 PAU Adj. w/ Protections Revenue (\$)	RY18 PAU Savings Adj. w/ Protection (\$)	Net RY19 Revenue Impact (%)	Net RY19 Revenue Impact (\$)
		A	B	C=B* -15.91 <sup>16</sup>	D = A*C	E	F	G = A*F	H=G + (0.06%*A) <sup>17</sup>	I=H/A	J	K = (H-G)/A	L=K*C	
210032	Union Cecil	\$158,683,870	11.69%	-1.86%	-\$2,950,207	26.69%	-1.75%	-\$2,776,968	-\$2,866,696	-1.81%	-\$2,359,447	-0.32%	-\$507,312	
210033	Carroll	\$225,263,359	16.56%	-2.63%	-\$5,931,532	13.86%	-2.63%	-\$5,931,532	-\$6,058,907	-2.69%	-\$4,341,595	-0.76%	-\$1,717,408	
210034	Harbor	\$186,978,444	15.41%	-2.45%	-\$4,584,361	32.62%	-1.75%	-\$3,272,123	-\$3,377,850	-1.81%	-\$2,874,192	-0.27%	-\$503,720	
210035	UM-Charles	\$148,909,451	12.60%	-2.00%	-\$2,984,942	18.01%	-2.00%	-\$2,984,942	-\$3,069,143	-2.06%	-\$2,803,843	-0.18%	-\$265,357	
210037	UM-Easton	\$202,561,563	9.22%	-1.47%	-\$2,970,792	17.31%	-1.47%	-\$2,970,792	-\$3,085,330	-1.52%	-\$3,096,495	0.01%	\$11,141	
210038	UMMC Midtown	\$234,227,770	14.46%	-2.30%	-\$5,385,824	42.17%	-1.75%	-\$4,098,986	-\$4,231,430	-1.81%	-\$3,442,404	-0.34%	-\$789,113	
210039	Calvert	\$143,263,199	11.31%	-1.80%	-\$2,577,050	16.67%	-1.80%	-\$2,577,050	-\$2,658,058	-1.86%	-\$2,244,537	-0.29%	-\$413,458	
210040	Northwest	\$255,493,814	15.98%	-2.54%	-\$6,493,091	21.66%	-2.54%	-\$6,493,091	-\$6,637,560	-2.60%	-\$5,594,125	-0.41%	-\$1,043,437	
210043	UM-BWMC	\$409,703,662	14.43%	-2.29%	-\$9,400,294	17.57%	-2.29%	-\$9,400,294	-\$9,631,961	-2.35%	-\$8,105,616	-0.37%	-\$1,526,146	
210044	GBMC.	\$442,204,396	7.76%	-1.23%	-\$5,459,037	10.41%	-1.23%	-\$5,459,037	-\$5,709,081	-1.29%	-\$5,312,059	-0.09%	-\$397,100	
210045	McCready	\$15,618,329	8.03%	-1.28%	-\$199,550	14.76%	-1.28%	-\$199,550	-\$208,381	-1.33%	-\$208,250	0.00%	-\$125	
210048	Howard	\$298,460,107	12.72%	-2.02%	-\$6,039,326	15.65%	-2.02%	-\$6,039,326	-\$6,208,090	-2.08%	-\$5,035,913	-0.39%	-\$1,172,053	
210049	UM-UCH	\$334,751,759	10.94%	-1.74%	-\$5,824,956	11.51%	-1.74%	-\$5,824,956	-\$6,014,241	-1.80%	-\$4,909,071	-0.33%	-\$1,105,016	
210051	Doctors	\$239,227,750	17.39%	-2.77%	-\$6,617,541	18.97%	-2.77%	-\$6,617,541	-\$6,752,812	-2.82%	-\$5,306,892	-0.60%	-\$1,445,893	
210055	UM-Laurel	\$99,871,376	10.71%	-1.70%	-\$1,701,713	29.71%	-1.70%	-\$1,701,713	-\$1,758,185	-1.76%	-\$1,484,000	-0.27%	-\$274,147	
210056	Good Sam	\$264,597,392	17.05%	-2.71%	-\$7,174,724	20.41%	-2.71%	-\$7,174,724	-\$7,324,340	-2.77%	-\$5,845,659	-0.56%	-\$1,478,570	
210057	Shady Grove	\$387,674,359	10.49%	-1.67%	-\$6,465,264	19.52%	-1.67%	-\$6,465,264	-\$6,684,474	-1.72%	-\$5,160,898	-0.39%	-\$1,523,560	
210058	UMROI	\$120,638,692	0.10%	-0.02%	-\$19,049	24.39%	-0.02%	-\$19,049	-\$87,264	-0.07%	-\$8,357	-0.07%	-\$78,898	
210060	Ft. Wash	\$48,244,588	14.46%	-2.30%	-\$1,109,881	18.55%	-2.30%	-\$1,109,881	-\$1,137,161	-2.36%	-\$1,010,796	-0.26%	-\$126,353	
210061	AGH	\$105,151,502	9.15%	-1.46%	-\$1,529,962	12.85%	-1.46%	-\$1,529,962	-\$1,589,420	-1.51%	-\$1,180,344	-0.39%	-\$409,039	
210062	Southern MD	\$271,260,318	16.71%	-2.66%	-\$7,208,288	21.35%	-2.66%	-\$7,208,288	-\$7,361,672	-2.71%	-\$5,817,602	-0.57%	-\$1,544,014	

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		A	B	C=B* -15.91 <sup>16</sup>	D = A*C	E	F	G = A*F	H=G + (0.06%*A) <sup>17</sup>	I=H/A	J	K = (H-G)/A	L=K*C		
210063	UM-St. Joes	\$398,711,781	7.80%	-1.24%	-\$4,948,971	11.49%	-1.24%	-\$4,948,971	-\$5,174,422	-1.30%	-\$4,623,341	-0.14%	-\$551,020		
210064	Levindale	\$58,867,710	7.16%	-1.14%	-\$670,682	5.70%	-1.14%	-\$670,682	-\$703,969	-1.20%	-\$611,430	-0.16%	-\$92,540		
210065	HC-German	\$102,303,760	12.84%	-2.04%	-\$2,089,836	22.10%	-2.04%	-\$2,089,836	-\$2,147,684	-2.10%	-\$1,649,332	-0.49%	-\$498,322		
<b>Total</b>	<b>Total</b>	<b>16,292,627,632</b>	<b>11.00%</b>	<b>-1.75%</b>	<b>285,120,984</b>	<b>21.05%</b>	<b>-1.69%</b>	<b>275,882,670</b>	<b>285,120,984</b>	<b>-1.75%</b>	<b>-28,429,107</b>	<b>-0.35%</b>	<b>-56,698,344</b>		
Top Quartile=						24.53%									

Percentages have been rounded for display but full numbers may be used in calculations. Final scaling percentages are rounded to two decimal places.

## Supplemental Report on Efforts to Modernize PAU Measurement and Adjustment in Future Years

This supplemental report will provide additional context on three main areas of concern as staff works to modernize the PAU measurement and adjustment in future years: A) HSCRC Expansion/Refinement of PAU Measure; B) Hospital-defined PAU; and C) Savings Protections for individual hospitals

### Future Expansion and Refinement of PAU

#### Future Expansion and Refinement of PAU

The Potentially Avoidable Utilization (PAU) measure is an indicator of hospital spending and services that may be avoidable with high-value care throughout the healthcare system. To date, the PAU measure has focused on the specific outcomes that may result from the underuse of high-value primary care and community health, as measured through preventable admissions (Prevention Quality Indicators (PQIs)) and readmissions. While the current PAU methodology quantifies about 11% of hospital revenue as associated with potentially avoidable utilization, research estimates indicate as much as 25-30% of total medical care spending is unnecessary or wasteful.<sup>18</sup> Although hospital care is a smaller subset of total medical care, this research indicates there are significant domains of hospital spending that remain unmeasured in the current PAU measure, including overuse of potentially low value care and additional outcomes of underuse of high value care.<sup>19</sup> Given this literature and stakeholder feedback, HSCRC staff plans to explore the measurement of PAU to capture a larger, more comprehensive amount of use/revenue.

In addition to expanding PAU, it is important to reassess and refine the existing measures and revenue captured in PAU. PQIs and readmissions encompass \$1.8 billion in hospital revenue annually in Maryland, and reflect the outcomes of care fragmentation and lack of coordination between hospitals and community providers. Improvements and alignment in care delivery between these historically separate groups are crucial for reducing this potentially preventable utilization and for success in the All-Payer Model. While hospitals have achieved significant progress in transforming the delivery system to date, there must be a continued emphasis on readmissions and PQIs ensures focus on care coordination, improving quality of care, and providing care management for complex and high-needs patients. For these reasons, staff has continued to recommend the use of PQIs and readmissions in PAU as measures of coordination between hospitals, primary care, and communities. However, as part of the PAU expansion efforts, HSCRC staff plans to explore stakeholder concerns around how PQIs are implemented in PAU Savings and potentially refine the measure use.

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<sup>18</sup> Berwick DM, Hackbarth AD. Eliminating Waste in US Health Care. *JAMA*. 2012;307(14):1513–1516.

<sup>19</sup> Mafi, John N., et al. "Association of primary care practice location and ownership with the provision of low-value care in the United States." *JAMA internal medicine* 177.6 (2017): 838-845.

## Initial Considerations, Research, and Outreach

Staff has solicited initial input on PAU expansion from the Performance Measurement Workgroup, Consumer Standing Advisory Committee, measurement experts, and others. Based on those initial conversations, as well as other items mentioned in the Commissioner white paper,<sup>20</sup> a number of initial important principles have emerged for future measurement of PAU. An updated PAU measure should:

- Continue to be measured on an all-payer basis
- Be nationally recognized or used in other programs/states
- Be supported by clinical recommendations, consumer advocacy groups, and the medical and economic literature.
- Incorporate a significant amount of revenue
- Consider how PAU is used in multiple Commission policies. Not all measures that may be under consideration for PAU can be directly linked to revenue.
- Prioritize aligning measures with outcomes of existing or planned hospital avoidable use initiatives, rather than requiring new programs to target the measure

## Potential Domains of PAU Measurement

**Low Value Care.** Broadening the PAU measure to encompass potentially low value care emphasizes reducing medical care that may have little or no net benefit (or even potentially cause harm),<sup>21</sup> rather than on the upstream prevention of clinical need. Harms can include inappropriate treatment, false positives, clinical risks, and unnecessary consumer and delivery system cost. While doctors and clinical specialties have begun to identify potentially low value services through the Choosing Wisely initiatives, potentially low value care is still a significant component of cost in the overall healthcare system, estimated to be around \$340 billion in 2009.<sup>22</sup> Consumer groups generally support measurement of low value, but there is also a recognition that the definition of “value” may vary from individual to individual and what is inappropriate for one patient may be appropriate for another.<sup>23,24</sup> Because of these concerns, it may make sense to focus first on well-defined measures that are shown to have little or no clinical value and that the global budget system already incentivizes hospitals to reduce. This approach could allow the Commission to identify problematic patterns of low value care while

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<sup>20</sup> <http://www.hscrc.maryland.gov/Documents/December%202017%20Post%20Meeting%20Materials.pdf>

<sup>21</sup> IOM (Institute of Medicine). *Crossing the Quality Chasm: a New Health System for the 21st Century*. Washington, D.C.: National Academy Press; 2001.

<sup>22</sup> Institute of Medicine. 2013. *Best Care at Lower Cost: the Path to Continuously Learning Health Care in America*. Washington, D.C.: National Academies Press; 2013.

<sup>23</sup> Schlesinger M, Grob R. Treating, Fast and Slow: Americans' Understanding of and Responses to Low-Value Care. *The Milbank Quarterly*. 2017;95(1):70-116. doi:10.1111/1468-0009.12246.

<sup>24</sup> Brownlee, S. and Berman, A. *Defining Value in Health Care Resource Utilization: Articulating the Role of the Patient*. John T Harford Foundation; 2016.



limiting unintended consequences.<sup>25</sup> It also may be more appropriate to measure potentially low value care as rates or as a global measure of overuse, which may not directly link to revenue.<sup>26</sup> As part of this process, HSCRC plans to explore existing composite tools, such as the Johns Hopkins Overuse Index<sup>27</sup> and the MedInsight Health Waste Calculator.<sup>28</sup> The measures selected should represent a significant amount of potentially avoidable spending, regardless of whether the measurement is based on performance rates or revenue.

**High Value Care.** Enhancements in chronic care— with a focus on prevention and treatment in the office, home, and long-term care settings—are essential to improving indicators of healthy lives and health equity. Success in the global budget setting relies on patients receiving care in the appropriate settings; therefore, a central focus of the All-Payer Model is the reduction of hospital utilization through improved care coordination and enhanced community-based care. The current measure of PAU focuses on preventing the need for hospitalizations through improved management in the community, but it does not comprehensively cover all populations or settings of care. For example, measures could be added to reflect innovative community-hospital partnerships for specific populations, such as physician rounding to prevent hospitalizations from nursing home or long-term care patients. For settings of care, Maryland hospitals may be investing in emergency department navigator programs to connect patients with primary care providers, but prevention quality indicators may not capture all of the avoided revenue from these efforts.

### Refinements to current measure

While HSCRC continues to recommend the use of PQIs and readmissions, staff plans to examine PAU measurement in future years to address stakeholder measurement concerns, in particular relating to the use of PQIs. As originally specified by the Agency for Healthcare Research and Quality, PQIs were intended to capture population-level differences in care quality per 100,000 residents. The PAU Savings Policy uses the same logic and code to identify PQIs; however, the policy compares the hospital revenue associated with these admissions with total hospital revenue. Stakeholders have noted that it may not be appropriate to use hospital revenue as the comparison, given that effective efforts to reduce PQIs may actually lead to less hospital

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<sup>25</sup> Bhatia RS, Levinson W, Shortt S, et al. Measuring the effect of Choosing Wisely: an integrated framework to assess campaign impact on low-value care. *BMJ Quality & Safety*. 2015;24(8):523-531. doi:10.1136/bmjqs-2015-004070.

<sup>26</sup> Segal JB, Nassery N, Chang HY, Chang E, Chan K, Bridges JF. An index for measuring overuse of health care resources with Medicare claims. *Med Care*. 2015 Mar;53(3):230-6.

<sup>27</sup> Ibid.

<sup>28</sup> MedInsight calculator was used in all payers claims databases in both Washington and Virginia to assess the cost of unnecessary services.

Washington: Washington Health Alliance. First Do No Harm: Calculating Health Care Waste in Washington State. Feb 2018. Available at <https://www.wacommunitycheckup.org/media/47156/2018-first-do-no-harm.pdf>.

Virginia: Mafi JN, Russell K, Bortz BA, Dachary M, Hazel WA Jr, Fendrick AM. Low-Cost, High-Volume Health Services Contribute The Most To Unnecessary Health Spending. *Health Aff (Millwood)*. 2017 Oct 1;36(10):1701-1704.

spending, i.e., a reduced denominator. This issue is somewhat mitigated in Maryland by the fact that the state operates in a GBR hospital system.

However, staff acknowledges measurement issues may remain and some issues that initially prevented a population-based approach may now be surmountable. In the time since PQIs were initially implemented, the Total Cost of Care Workgroup has developed a method of attributing responsibility for Maryland residents' utilization and spending to hospitals based on geographic attribution, known as Primary Service Area-Plus (PSA-Plus). PSA-plus is based on hospital primary service areas as indicated in global budget revenue agreements plus enhancements to ensure full geographic coverage for the state. The Commission can explore using this geographic method in PAU as a population-level denominator for readmissions and PQIs. However, this change might require a shift from a revenue-based measure to a discharge-per capita measure, which would require additional steps to translate to revenue. If discharge approach is used for PAU savings, a different PAU measures may be needed for the Market Shift adjustment, as this relies on actual revenue changes.

## Next Steps

As presented to the Performance Measurement Work Group in the March and April meetings, HSCRC staff plans to implement any additional measurement of PAU for the calendar year 2019 performance period, effective for payment adjustments in RY2021. This timeline allows for development and testing additional measures before the performance period in which those measures would be applied.

In May and June, staff expects to receive additional comments on PAU expansion from the Commission and stakeholders through the draft and final submission of the RY2019 PAU Savings Policy. Staff plans to perform analyses and solicit continual input on RY2021 specific measures and their feasibility throughout the summer and fall, and staff intends to start reporting measures for potential use in Fall 2018. This will allow stakeholders to become familiar with and help refine the measures prior to the CY 2019 performance period. Ongoing stakeholder engagement is crucial to effective expansion and refinement of PAU, with collaboration and input from consumers, hospitals, clinicians, and payers through HSCRC workgroups as well as formal and informal presentations and comment periods.

## Hospital-defined PAU Measurement

### Hospital defined PAU measurement

As an element of alignment with hospitals, the Commissioner White Paper from November 2017 proposed that hospitals be allowed to submit their own measurement of PAU. Under this approach, hospitals could submit proposals for PAU programs as an alternative to the standard PAU Savings Policy. The proposals would need to be approved by HSCRC and would be required to meet guidelines set out by the HSCRC, which could include elements such as being

grounded in the medical and economic literature and demonstrate strong physician leadership. In addition, hospitals would need to present an implementation plan to achieve expected reductions in PAU.

## Initial Considerations, Outreach, and Research

HSCRC staff has requested preliminary input on hospital-defined PAU approaches and incorporated many of the guidelines outlined in the White Paper in the considerations for PAU Expansion. With input from hospitals and other stakeholders, the collaborative process around PAU expansion should better reflect hospital efforts to reduce PAU and lessen the need for unique hospital-defined PAU. Staff believes that this approach, or alternatives using the guidelines outlined in the White Paper in a different way, such as necessary criteria for hospitals to request rate reviews, may achieve similar purposes as hospital-defined PAU with less burden for both hospitals and Commission staff.

Staff has summarized some practical concerns around implementing the suggested hospital-specific PAU in the PAU Savings Program below:

- The Commission may also want to consider the potential feasibility of evaluating unique proposals for all Maryland acute hospitals. Monitoring changes and updates to measure specifications for the HSCRC statewide programs already takes up a significant amount of staff resources. Even if hospitals submitted their own measure monitoring and proposed updates, staff would be required to evaluate each measure change to ensure it was valid, or not allow any measure updates throughout the year, which would not be appropriate in many cases.
- As currently structured, the PAU Savings Policy uses relative ranking of hospitals to determine hospital-specific scaling of the PAU Savings adjustment. Therefore, it would be necessary to redesign the PAU Savings Policy to allow hospitals to opt out of the standard policy.
- Staff is concerned about the potential for approving adjustments based on hospital-sourced data that cannot be independently verified by the Commission, and without non-hospital stakeholder input.
- Given current efforts to redesign the Maryland Hospital-Acquired Conditions program, staff may not have sufficient bandwidth to also redesign PAU Savings.

## Next Steps

As presented to the Performance Measurement Work Group in the March and April meetings, HSCRC staff plans to implement any additional measurement of PAU for the calendar year 2019 performance period, effective for payment adjustments in RY2021 (i.e., RY 2020 will use

readmissions and PQIs unless stakeholders waive requirement to preview measures for one year). Although hospital-defined PAU may not affect all hospitals in terms of measurement, hospitals opting out of the standard PAU Savings program will affect other hospitals due to the relative ranking used in PAU Savings. This timeline aims to allow development and testing of the impact of opt-outs on other hospitals before the performance period begins.

In May and June, staff expects to receive additional comments on hospital-defined PAU from the Commission and stakeholders through the draft and final submission of the RY2019 PAU Savings Policy. Given the burden of separate reporting and measurement for each hospital in PAU Savings, staff plans to explore alternative approaches to hospital-defined PAU, such as in rate reviews. Staff plans to perform analyses and solicit input and feasibility on RY2021 hospital-defined PAU throughout the summer and fall.

## Discussion on PAU Savings Hospital Protections

### PAU Savings Protections

As detailed in the recommended Draft RY2019 PAU Savings Policy, staff is recommending that the PAU savings reductions continue to be capped at the state average if a hospital serves a high proportion of disadvantaged populations.<sup>29</sup> In the RY2019 Policy, this criterion was defined as hospitals in the top quartile in Maryland in terms of the percentage of their total inpatient equivalent case-mix adjusted discharges that are Medicaid/Self-Pay/Charity. This policy was initially adopted because hospitals serving areas with higher socioeconomic burden may face additional challenges in reducing PAU, such as issues with transportation, family and community resources, or health literacy barriers.

These hospitals may have more room for improvement due to historically high rates of PAU, but it may be more difficult for them to reach statewide attainment targets. Because, unlike other HSCRC performance-based programs, the PAU Savings Program does not credit hospitals for improvement, the PAU Savings Protection policy aims to ensure that these hospitals have the needed resources to serve their communities, while still incentivizing them to reduce their PAU percentage below the statewide level to receive a lower reduction. On the other hand, the Commission does not want to excuse poor quality of care or inadequate care coordination for patients in disadvantaged communities. In light of these issues, further attention will be given to modifying or eliminating this protection in future years.

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<sup>29</sup> The measure includes the percentage of Medicaid and Self-pay or Charity equivalent case-mix adjusted discharges for inpatient and observation cases with 23 hours or longer stays, with protection provided to those hospitals in the top quartile.

## Initial Considerations

Staff continues to discuss the issue with stakeholders, including consumers, payers, and hospitals, and is exploring methods of risk adjustment. At this time, staff has presented these concerns and potential strategies to the Consumer Standing Advisory Committee and the Performance Measurement Work Group. Feedback has been broad, and staff continues to solicit additional feedback to understand how best to proceed. For example, members of the Consumer Standing Advisory Committee suggested scaling the protection based on improvement.

## Next Steps

HSCRC is seeking input on the protections under the policy to ensure that the policy remains appropriate and valid for the goals of the PAU Savings Program. In particular, staff is considering adjusting the protection for other factors or phasing out the protection over time. For potential inclusion in future RY policies, staff will model the impact of phasing out the protection and potential ways to scale the protection for improvement by Fall 2018, which will be just before the next performance year (CY 2019, RY 2021). Again, staff intends to alter or phase out the PAU protection in future years, so feedback on how to most responsibly proceed is of utmost importance.

**Final Recommendations on Continued Financial Support  
for the Maryland Patient Safety Center  
for FY 2019**

June 13, 2018

Health Services Cost Review Commission  
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## **LIST OF ABBREVIATIONS**

Delmarva	Delmarva Foundation for Medical Care
FY	Fiscal Year
HQI	Hospital Quality Initiative
HSCRC	Health Services Cost Review Commission
MAPSO	Mid-Atlantic Patient Safety Organization
MDH	Maryland Department of Health
MHA	Maryland Hospital Association
MHCC	Maryland Health Care Commission
MPSC	Maryland Patient Safety Center
NAS	Neonatal Abstinence Syndrome
RFP	Request for Proposals
TCOC	Total Cost of Care



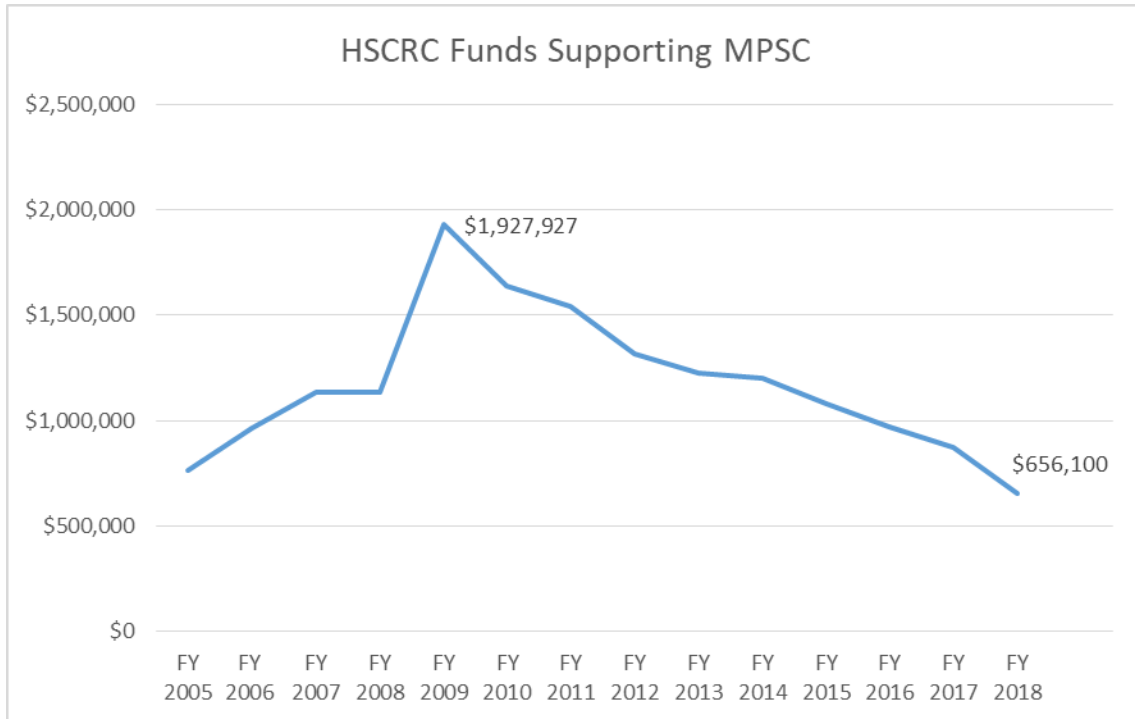
## INTRODUCTION

In 2004, the Maryland Health Services Cost Review Commission (HSCRC or Commission) adopted recommendations to provide seed funding for the Maryland Patient Safety Center (MPSC) through hospital rates. The initial recommendations funded 50 percent of the reasonable budgeted costs of the MPSC. In FY 2018, HSCRC-dedicated funds accounted for 37 percent of its total budget. The proposed support for MPSC in FY 2019 represents 28 percent of the total budget. The HSCRC collaborates with MPSC on projects as appropriate, receives an annual briefing and documentation on the progress of the MPSC in meeting its goals, as well as an estimate of expected expenditures and revenues for the upcoming fiscal year. Based on the annual budget item information provided by the MPSC and staff experience, staff makes recommendations to the Commission regarding the continued financial support of the MPSC.

As the State moves toward a Total Cost of Care All-Payer Model (TCOC Model), it is increasingly important that safety and quality is improved across all care settings. The key stakeholders that are involved with the MPSC include hospitals, patients, physicians, long-term care and post-acute providers, ambulatory care providers, and pharmacy – all groups that are critical to the success of the All-Payer Model and the future TCOC Model. The MPSC is in a unique position in the State to develop and share best practices among these key stakeholders. It is also favorably positioned to act as a convener for hospital and non-hospital providers in Maryland to disseminate data that will help them succeed under the TCOC Model.

Over the past 14 years, the HSCRC included an adjustment to the rates of eight Maryland hospitals to provide funding to cover the costs of the MPSC. Funds are transferred biannually, by October 31 and March 31 of each year. Although funding increased between FY 2005 and FY 2009, the level of HSCRC support has declined each year since FY 2009, consistent with the original intent to scale back State-funded support. **Figure 1** below shows the funding level the HSCRC's in support of the MPSC.

Figure 1. HSCRC funds supporting MPSC FY2005-FY2018



In April 2018, the HSCRC received the MPSC program plan update for FYs 2018 and 2019 (see Appendix I). The MPSC is requesting a total of \$492,075 in funding support from the HSCRC for FY 2019, a 25 percent decrease over the previous year that is consistent with the Commission’s intent to reduce State funds over time and encourage a sustainable business model for the MPSC.

## BACKGROUND

The 2001 General Assembly passed the Patients’ Safety Act of 2001,<sup>1</sup> charging the Maryland Health Care Commission (MHCC)—in consultation with the Maryland Department of Health (MDH)—with studying the feasibility of developing a system for reducing the number of preventable adverse medical events in Maryland, including a system of reporting such incidences. The MHCC subsequently recommended the establishment of the MPSC to improve patient safety in Maryland.

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<sup>1</sup> Chapter 318, 2001 Md. Laws.

In 2003, the General Assembly endorsed this concept by including a provision in legislation to allow the MPSC to have medical review committee status, thereby making the proceedings, records, and files of the MPSC confidential and not discoverable or admissible as evidence in any civil action.<sup>2</sup>

The MHCC selected the Maryland Hospital Association (MHA) and the Delmarva Foundation for Medical Care (Delmarva) through the State's Request for Proposals (RFP) procurement process to establish and operate the MPSC in 2004, with an agreement that the two organizations would collaborate in their efforts. MHA and Delmarva jointly operated the MPSC from 2004 to 2009. The MPSC was then reorganized as an independent entity and was re-designated by the MHCC as the state's patient safety center starting in 2010 for two additional five-year periods. The MPSC's current designation extends through December 2019.

## ASSESSMENT

### Strategic Priorities and Partnerships

The MPSC's vision is to be a center of patient safety innovation, convening health care providers to accelerate understanding of, and implement evidence-based solutions for preventing avoidable harm. Its mission is to make healthcare in Maryland the safest in the nation.

The MPSC's goals are to:

- Eliminate preventable harm for every patient, with every touch, every time;
- Develop a shared culture of safety among patient care providers; and,
- Be a model for safety innovation in other states.

To accomplish its vision, mission, and goals, the MPSC established and continues to build new strategic partnerships with an array of key private and public organizations. The organizations represent a broad array of interests and expertise, including policymakers and providers across the continuum of healthcare quality, safety, and learning and education.

### MPSC Members and Partnerships

- The MPSC has membership agreements with 44 member hospitals, representing \$400,000 in annual dues.
- The Mid-Atlantic Patient Safety Organization (MAPSO), a component of the MPSC, includes 42 members representing hospitals, long-term care facilities, and

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<sup>2</sup> MD. CODE. ANN., Health-Gen. § 1-401(b)(14);(d)(1).

ambulatory care facilities. The primary activities of the MAPSO are to improve patient safety and healthcare quality by collecting adverse event reports, and holding educational events for members.

- The MPSC included 12 strategic partners.

### **Educational Programs and Conferences**

- Customized educational programs for MPSC members driven by changing needs of members and the healthcare industry
- Expanded the reach of the MPSC and increased participation levels of member hospitals through educational opportunities
- Convened the Annual Maryland Patient Safety Center Conference, which is the MPSC's signature event providing awareness, education, and information regarding best practice solutions
- Convened the Annual Medication Safety Conference, which concentrates on the prevention of medication errors

### **Maryland Patient Safety Center Activities, Accomplishments, and Outcomes**

As shown in Appendix 1, ongoing MPSC initiatives have engaged providers in hospitals, long-term care facilities, and ambulatory care facilities, as well as patients and consumers. MPSC uses a collaborative model to bring together providers from across the care spectrum to learn best practices to improve care and outcomes. MPSC is now using the Berkley Research Group to verify and analyze data collected from hospitals and other providers participating in MPSC initiatives.

Highlights from the data analyzed by MPSC include:

- Neonatal Abstinence Syndrome – The number of newborns with NAS that need to be transferred to a higher level nursery and specialty hospital has decreased from 17.1 percent to 10.4 percent. Length of stay for newborns has decreased from 15.6 days to 14.2 days, resulting in a cost avoidance of \$1.8 million in 2017.
- Reducing First Time C-Sections – Hospitals participating in the collaborative experienced a reduction of 743 first time C-sections, resulting in projected savings of \$1.4 million in 2017.
- Improving Sepsis Survival – Both cohorts of hospitals show a decrease in overall sepsis mortality, severe sepsis mortality, and septic shock mortality during the collaborative.

### **FY 2019 Quality and Safety Initiatives**

The MPSC has a number of ongoing multi-year quality and safety initiatives, as well as new initiatives that will commence in FY 2019. At the suggestion of the Commission, the

initiatives more closely track the quality goals required by the All-Payer Model and future TCOC Model. New programming that address quality and safety issues in FY 2019 include:

- **Care Alerts** – MPSC is working with CRISP to expand and improve hospital Care Alerts by conducting onsite training and recruitment at Maryland hospitals. The Care Alert Sprint, initiated by the Maryland Hospital Association, resulted in initial hospital engagement to enter care alert information for high-needs Medicare patients. However, continued work is needed to improve the quality of data included in the care alert as well as improve integration of the care alert in clinical care practice.
- **Improving Emergency Department Throughput:** The MPSC is exploring ways that it can help facilities reduce unnecessary Emergency Department volume, lower length of stay, improve patient satisfaction, and improve patient care by developing an advisory council. The council will examine initiatives currently underway nationally and locally to identify ways to decrease wait times and patient flow at Maryland hospitals.
- **Opioid Education for Consumers** – In response to the statewide opioid addiction epidemic, the MPSC has partnered with MHA and MedChi to propose a patient-centered statewide public awareness campaign aimed at educating consumers on opioid use. Topics include reasonable pain management expectations, the pros and cons of opioid use, opioid prescription storage and disposal, and important questions to ask when being prescribed an opioid medication. MPSC has conducted eleven presentations in FY 2018 and have scheduled an additional 25 in FY 2019 that aim to educate consumers about prescription opioid use and misuse.

Ongoing initiatives that will continue in FY 2019:

- **Improving Sepsis Survival Collaborative:** This initiative is designed to reduce sepsis mortality at Maryland hospitals by working with participating hospitals to share successes, challenges, experiences, and ideas through facilitated meetings, calls, and webinars. The goal of the collaborative is to reduce sepsis mortality by ten percent at participating hospitals, with an ultimate goal of sharing best practices to reduce sepsis mortality statewide. Currently, 21 hospitals participate in two cohorts (Cohort I contains ten hospitals and Cohort II contains eleven hospitals). The hospitals self-report monthly mortality data for patients with severe sepsis and septic shock and submit a quarterly status report.
- **Clean Collaborative:** In order to reduce healthcare associated infections, the MPSC contracted with CleanHealth Environmental to lead the Clean Collaborative initiative. Teams from hospitals, long-term care facilities, and ambulatory surgical centers are provided with both in-person and virtual opportunities to convene panels of experts to share best management practices for cleaning and disinfecting facility-wide surface areas, as well as opportunities to facilitate team collaboration. Phase 1 includes 18 hospitals, three long-term care

facilities, and five ambulatory surgical centers that participate in the collaborative. All participating healthcare facilities utilize clean validation technology at no cost. Participating facilities submit monthly sample results from targeted patient care and public areas. To date, MPSC reports a reduction in C-Diff cases of 14.2 percent in participating facilities resulting in a cost savings of nearly \$2.0 million.

- **Neonatal Abstinence Syndrome (NAS) Collaborative:** The MPSC continued its second year of this collaborative to improve the care of infants with NAS, which contributes to a significant amount of health care costs and resources and is increasing with the opioid epidemic. Participants include 31 birthing hospitals in Maryland, as well as the Mt. Washington Pediatric Hospital. The NAS Collaborative aims to standardize care for infants with NAS by providing hospitals with evidence-based best practices and education. Ultimately, the goal of the collaborative is to reduce length of stay, 30-day readmissions, and transfers to higher levels of care for infants with NAS. Results of the collaborative are included in Appendix 1.
- **Reducing Primary Cesareans and Supporting Intended Vaginal Births:** Since July 2016, the MPSC has partnered with the Alliance for Innovation in Maternal Health (AIM) to conduct the Reducing Primary Cesareans and Supporting Intended Vaginal Births initiative. The initiative uses emerging scientific, clinical, and patient safety advances to reduce primary (first time) cesarean rates in singleton, vertex term deliveries by ten percent. MPSC has submitted a grant application to the National Institutes of Health to continue this collaborative.
- **Adverse Event Reporting:** Initiated in July 2016, the Adverse Event Reporting initiative identifies trending patient safety issues, such as medication errors, at select Maryland hospitals. Data collected on adverse events help to determine future programming and educational needs for Maryland hospitals.
- **Medication Reconciliation:** A multi-disciplinary study group will explore potential opportunities to improve the process of medication reconciliation to improve patient safety.
- **Diagnostic Errors:** A study group will explore the role that the MPSC could take in the emerging work on diagnostic errors.
- **Caring for the Caregiver –** MPSC implemented Caring for the Caregiver program in three Maryland hospitals, as well as hospitals in South Carolina and Texas. Anticipated implementation is expected in hospitals in California and Georgia.

## FY 2019 Projected Budget

The MPSC continued to work with its partners to secure program-specific funding for FY 2019 and estimated the amounts it will secure for FY 2019 in the proposed budget outlined in Figure 2 below, including potential funds from the HSCRC. Consistent with FY 2018, the majority of the revenue anticipated in FY 2019 are derived from

membership dues and conference revenue. In FY 2018, HSCRC funding accounted for 37 percent of its operating expenses. If approved, the FY 2019 HSCRC funding will account for approximately 28 percent of the total MPSC expenses.

The MPSC is working on bolstering other revenue streams, such as the training and licensing of the Caring for the Caregiver program. Diversifying the revenue stream for MPSC is crucial to the long-term sustainability of the Center in order to create stability in fiscal planning and to move away from the reliance on rate setting funds.

Figure 2. Proposed MPSC Revenue and Expenses

	FY 2018 Total Budget	FY 2019 Total Budget
<b>Restricted Fund Beginning Balance as of 7/1/2017</b>	11,625	0
Restricted/Temp Restricted Grant Revenue	200,000	227,600
Net Assets Released from Restriction	(200,000)	(227,600)
Change in Restricted/Temp Restricted Net Assets	0	0
Ending Restricted/Temp Restricted Fund Balance	11,625	0
<b>Unrestricted Fund Beginning Balance as of 7/1/2017</b>		
Board Designated Operating Reserve	174,344	174,344
Unrestricted Net Assets	1,614,963	1,614,963
<b>Total</b>	1,789,307	1,789,307
<b>Unrestricted Revenue</b>		
HSCRC Payor Contributions	656,100	492,075
Membership Dues	375,000	375,000
Education Session Revenue	9,000	22,000
Annual Patient Safety Conference Revenue	200,000	210,000
Medsafe Revenue	2,000	4,000
Program Sales - Caring for HC	60,000	137,750
Program Sales - Certification Program	25,000	125,000
Program Sales - Team STEPPS	0	25,000
Other Grants & Contributions	50,000	50,000
Net Assets Released from Restriction	200,000	227,600
<b>Total Unrestricted Revenue</b>	1,577,100	1,668,425
<b>Unrestricted Expenses</b>		
Administration	518,726	387,800
Education Sessions	65,000	35,250
Annual Patient Safety Conference	289,500	315,500
Medsafe Medication Safety Initiative	19,250	22,750
Caring for HC	65,890	110,888
Patient Safety Certification	46,500	81,500
Adverse Event Reporting System	41,700	34,500
Perinatal/Neonatal Patient Safety Collaboratives	218,156	205,082
CRISP Care Alerts	0	27,600
Clean Environment	107,600	80,000
Medication Reconciliation	33,600	24,500
Diagnosis Errors	44,400	48,500
Opioid Misuse	123,000	131,400
Joy & Meaning	0	50,700
Emergency Department	0	88,500
<b>Total Unrestricted Expenses</b>	1,633,282	1,644,470
Change in Unrestricted Net Assets	(56,182)	23,956



## MPSC Return on Investment

As noted in the last several Commission recommendations, the All-Payer Model provides funding for the MPSC with the expectation that there will be both short- and long-term reductions in Maryland healthcare costs, particularly related to such outcomes as reduced mortality rates, lengths of stay, patient acuity, and malpractice insurance costs. The MPSC must continue to collect data on its programs in order to show quantifiable improvements in patient safety and outcomes and share best practices.

Additional data on all of the MPSC's programs is needed to ensure that the limited dollars available for MPSC funding creates meaningful improvements in quality and outcomes at facilities in Maryland – particularly outcomes that are consistent with the requirements under the All-Payer Model. Beginning in FY 2018, MPSC engaged the work of the Berkley Research Group to collect and analyze data from hospitals participating in MPSC programs or initiatives. The MPSC should continue to report results from its initiatives to HSCRC staff.

## RECOMMENDATIONS

Quality and safety improvements are the primary drivers to achieve the goals of reduced potentially avoidable utilization and reduced complications in acute care settings as required by the State's All-Payer Model and future TCOC Model. For these reasons, it is important to continue to support hospitals in identifying and sharing best practices to improve patient quality and outcomes. While individual hospitals across the State are experimenting with strategies to improve care coordination, enhance processes for better care, and advance systems and data sharing to maximize the efficiency and effectiveness of care, the MPSC is in a unique position to convene healthcare providers and share best practices that have been identified through multi-provider collaborative testing and change. The key stakeholders that are involved with the MPSC include hospitals, patients, physicians, long-term care and post-acute providers, ambulatory care providers, and pharmacy – all groups that are critical to the success of the All-Payer Model. The MPSC is in a favorable position in the State to develop and share best practices among this group of key stakeholders. To support the overall mission of the State, the MPSC should align initiatives with the broader statewide plan and activities for patient safety.

In response to the HSCRC draft report presented in May 2018, the MPSC submitted a comment letter on May 17, 2018 concurring with the draft funding recommendation and providing additional detail on the outcomes associated with its quality and patient safety initiatives. That letter is included as Appendix 2 of this report.

In light of the information presented above, HSCRC staff provides the following recommendations for the MPSC funding support policy for FY 2019:

1. Consistent with the approval of the Commission last year, the HSCRC should reduce the amount of funding support for the MPSC in FY 2019 by 25 percent. The result is an adjustment to hospital rates in the amount of \$492,075 in FY 2019, a 25 percent reduction from FY 2018.

2. In order to receive future funding from the hospital rate setting system, the MPSC should continue to report quarterly on data that it has collected from hospitals and other facilities that participate in its quality and safety initiatives and demonstrate, to the extent possible, the ways in which MPSC initiatives are producing measurable gains in quality and safety at participating facilities.
3. Going forward, the HSCRC should decrease the amount of support by 25 percent per year in order to achieve the goal of independent sustainability for MPSC.
4. The MPSC should continue to pursue strategies to achieve long-term sustainability through other sources of revenue, including identifying other provider groups that benefit from MPSC programs.

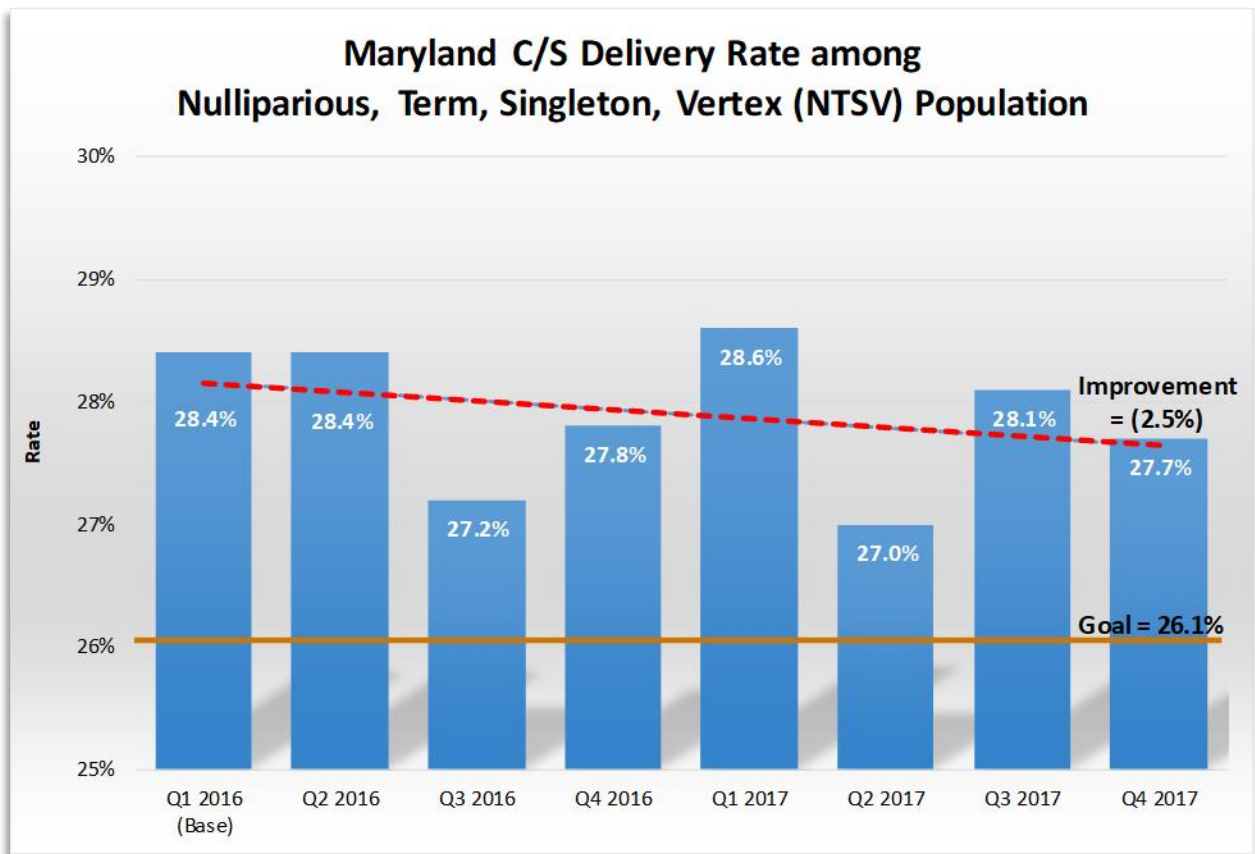
**APPENDIX 1.**

**Reducing First-Time C-Sections Collaborative**

**NTSV C-Section Rates, Q1 2016 – Q4 2017**

Base Period: January – March 2016

Measure Period: June 2016 – June 2018



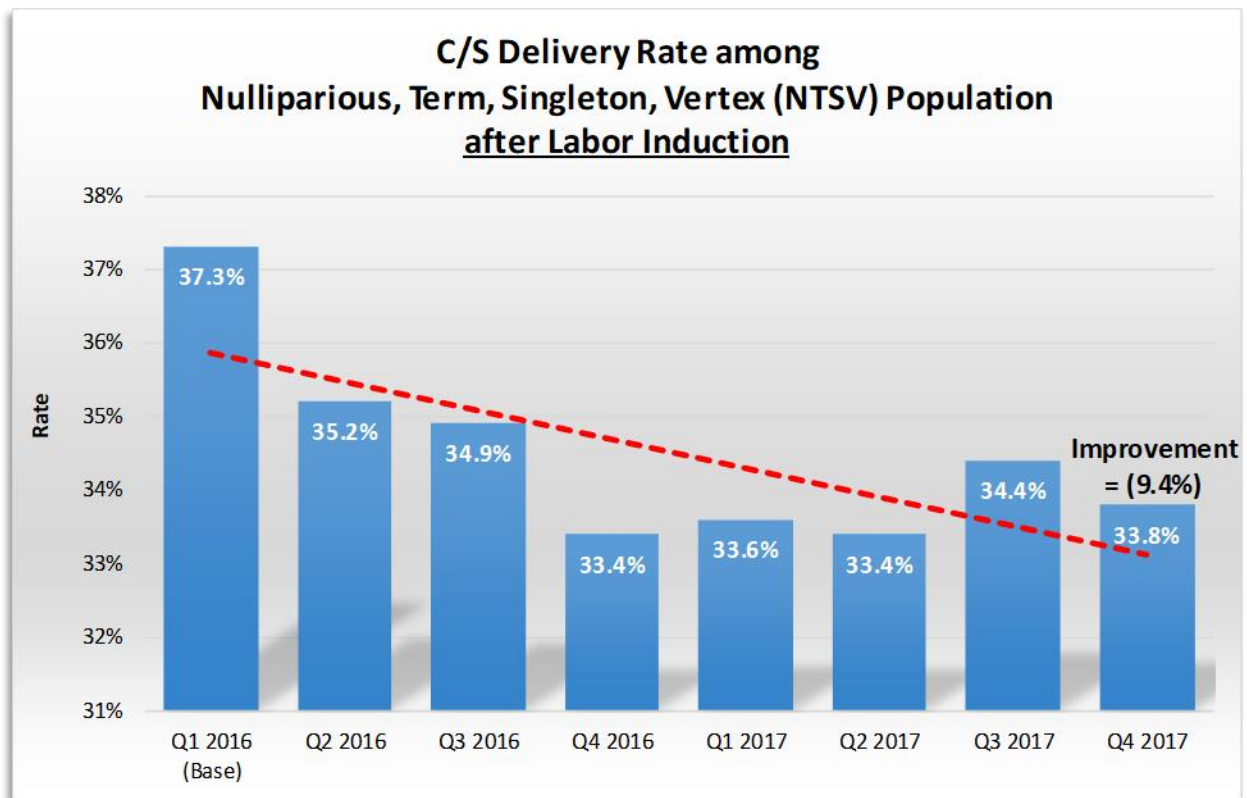
Source: Preliminary Vital Statistics data; Maryland Collaborative-wide Rates

CY 2017 change vs. 12-month base period (Q2 2015 – Q1 2016): (5.2%) Improvement

## NTSV C-Section Rates After Labor Induction, Q1 2016 – Q4 2017

Base Period: January 2016 – March 2016

Measure Period: June 2016 – June 2018



Source: Preliminary Vital Statistics data; Maryland Collaborative-wide Rates

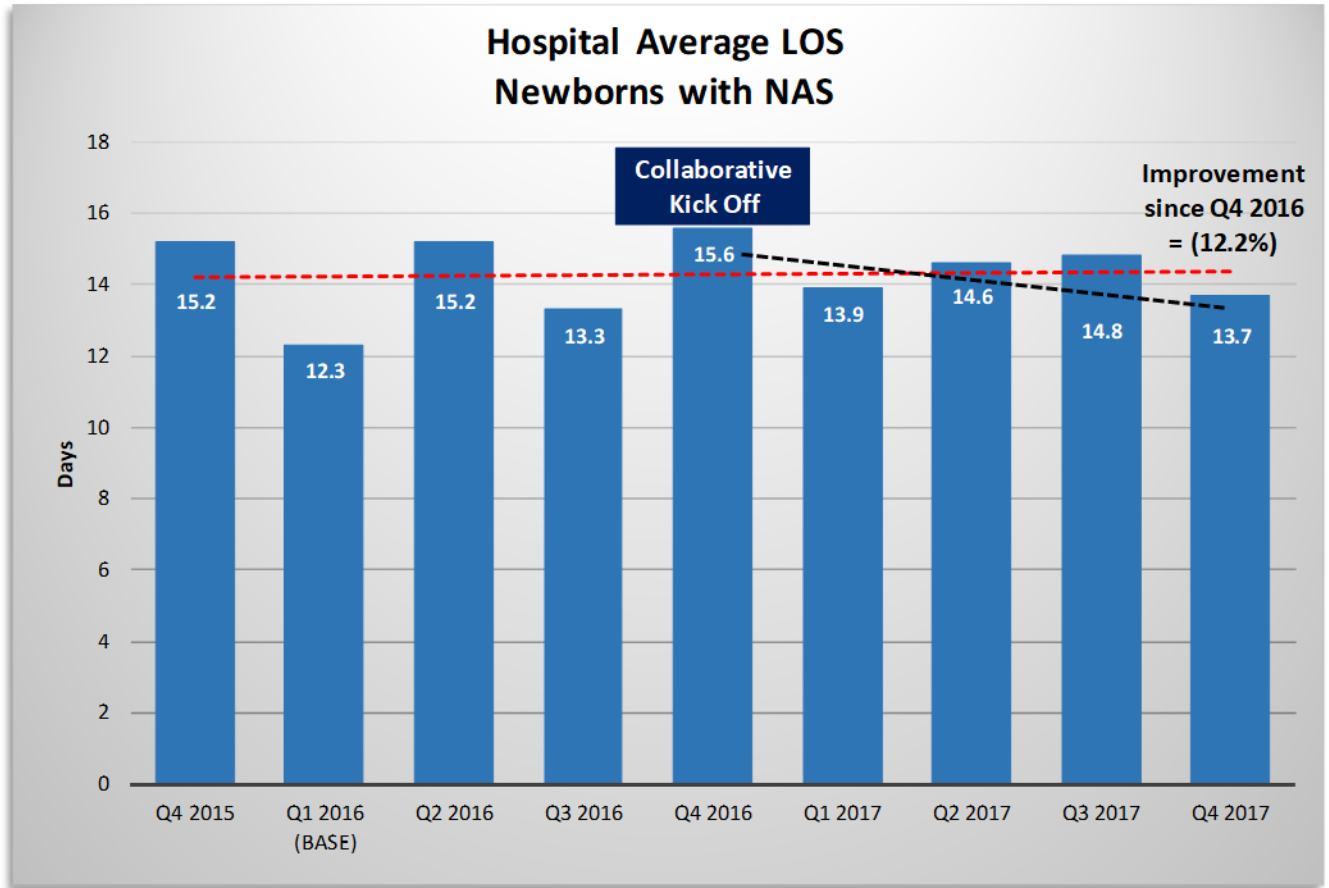
CY 2017 change vs. 12-month base period (Q2 2015 – Q1 2016): (9.1%) Improvement

Neonatal Abstinence Syndrome (NAS) Collaborative

### NAS Average Length of Stay, Q4 2015 – Q4 2017

Base Period: January – March 2016

Measure Period: October 2016 – September 2018



CY 2017 change vs. collaborative start date (Q4 2016): (8.9%) Improvement

# NAS Transfers to Higher Level Nursery & Specialty Hospitals, Q1 2016 – Q3 2017

Base Period: January – March 2016

Measure Period: October 2016 – September 2018

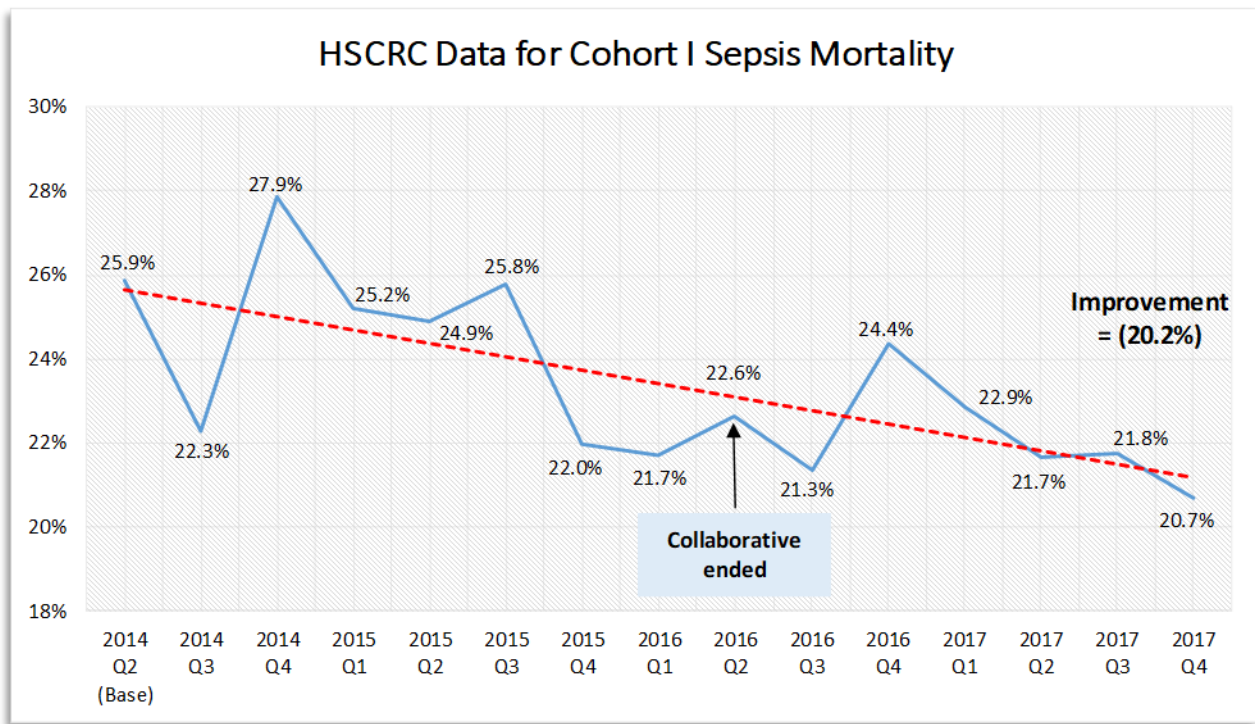


Improving Sepsis Survival Collaborative

Sepsis Mortality Rate – Cohort I, Q2 2014 – Q4 2017

Base Period: April – June 2014

Measure Period: July 2014 – June 2016



Cohort I: N = 10

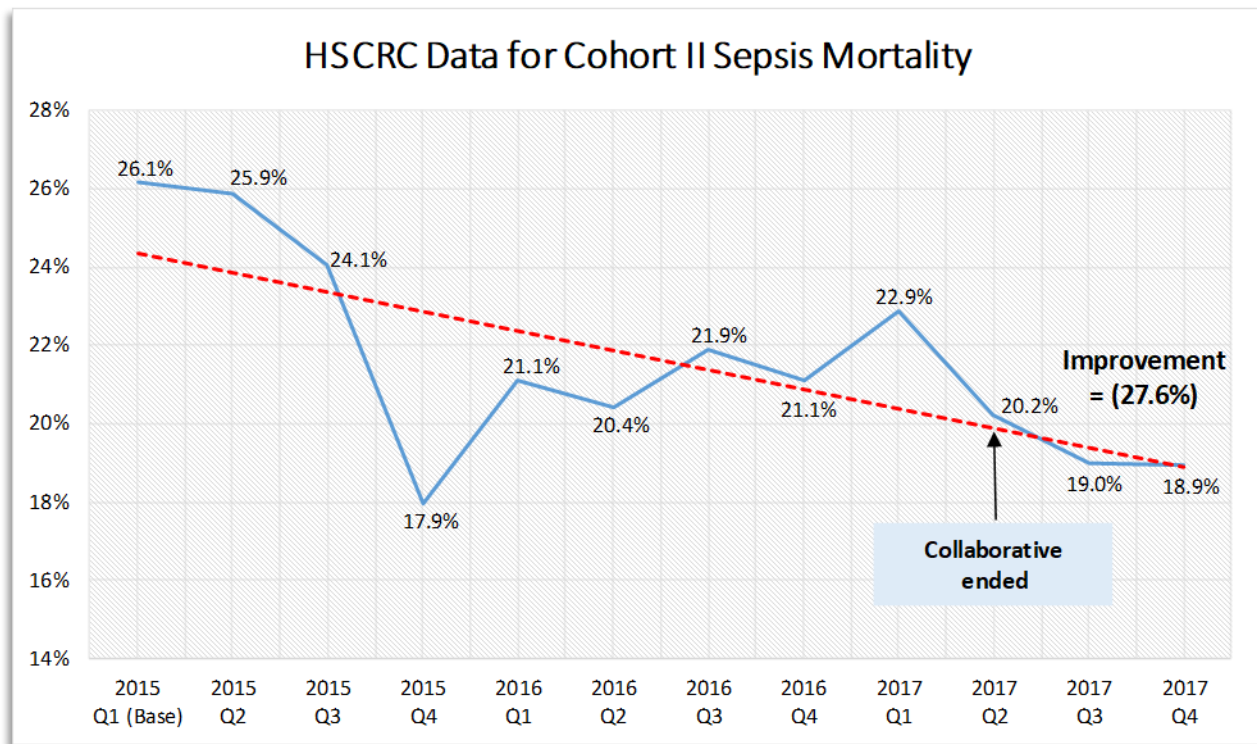
Sepsis Mortality Rate (%) = [Number of patients who expired with ICD-10 codes R6520 (severe sepsis) + R6521 (septic shock) / Total number of patients with those ICD-10 codes]\*100

CY 2017 change vs. 12-month base period (Q3 2013 – Q2 2014): (17.7%) Improvement

## Sepsis Mortality Rate – Cohort II, Q1 2015 – Q4 2017

Base Period: January – March 2015

Measure Period: April 2015 – April 2017



Cohort II: N = 11

Sepsis Mortality Rate (%) = [Number of patients who expired with ICD-10 codes R6520 (severe sepsis) + R6521 (septic shock) / Total number of patients with those ICD-10 codes]\*100

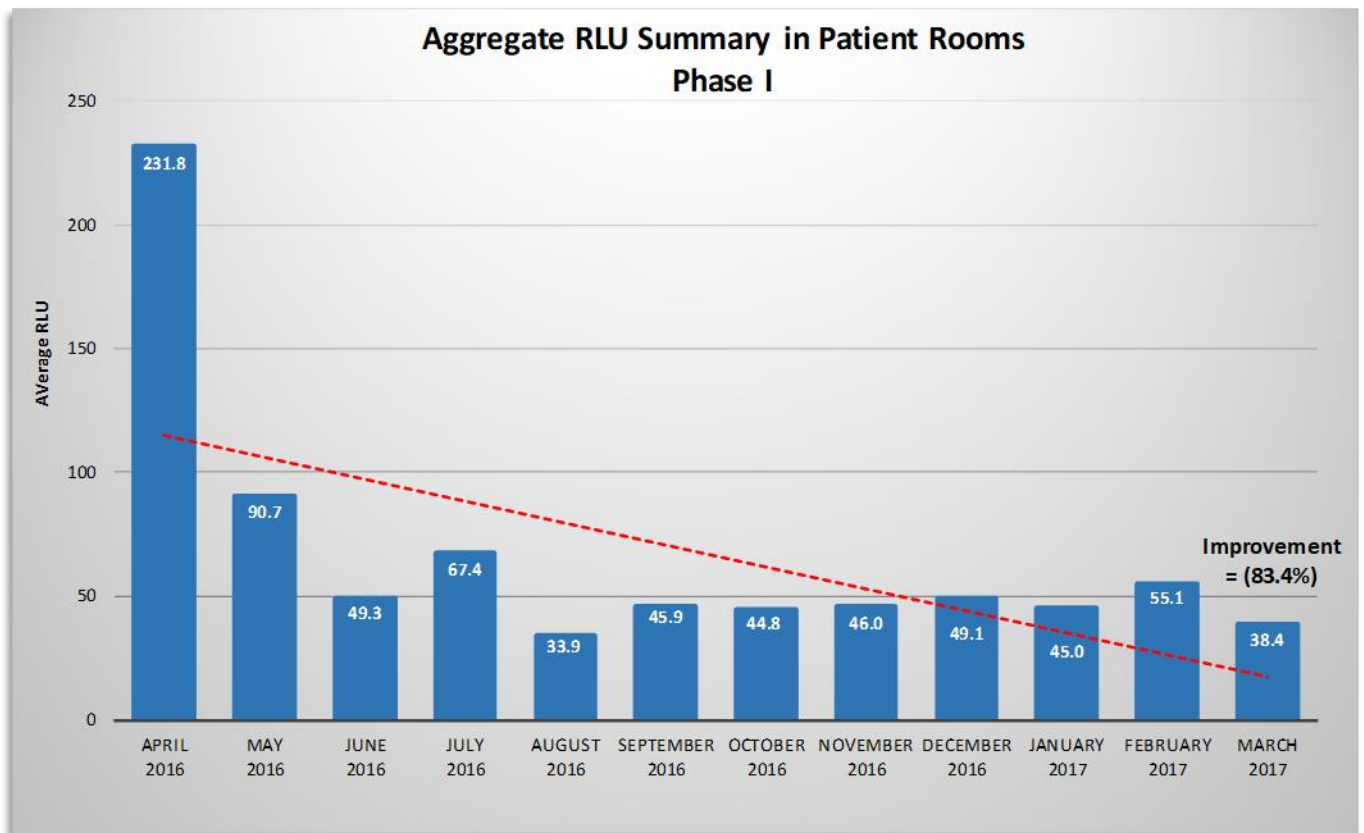
**CY 2017 change vs. 12-month base period (Q2 2014 – Q1 2015): (18.4%) Improvement**



## RLUs in Patient Rooms

Base Period: N/A

Measure Period: April 2016 – March 2017



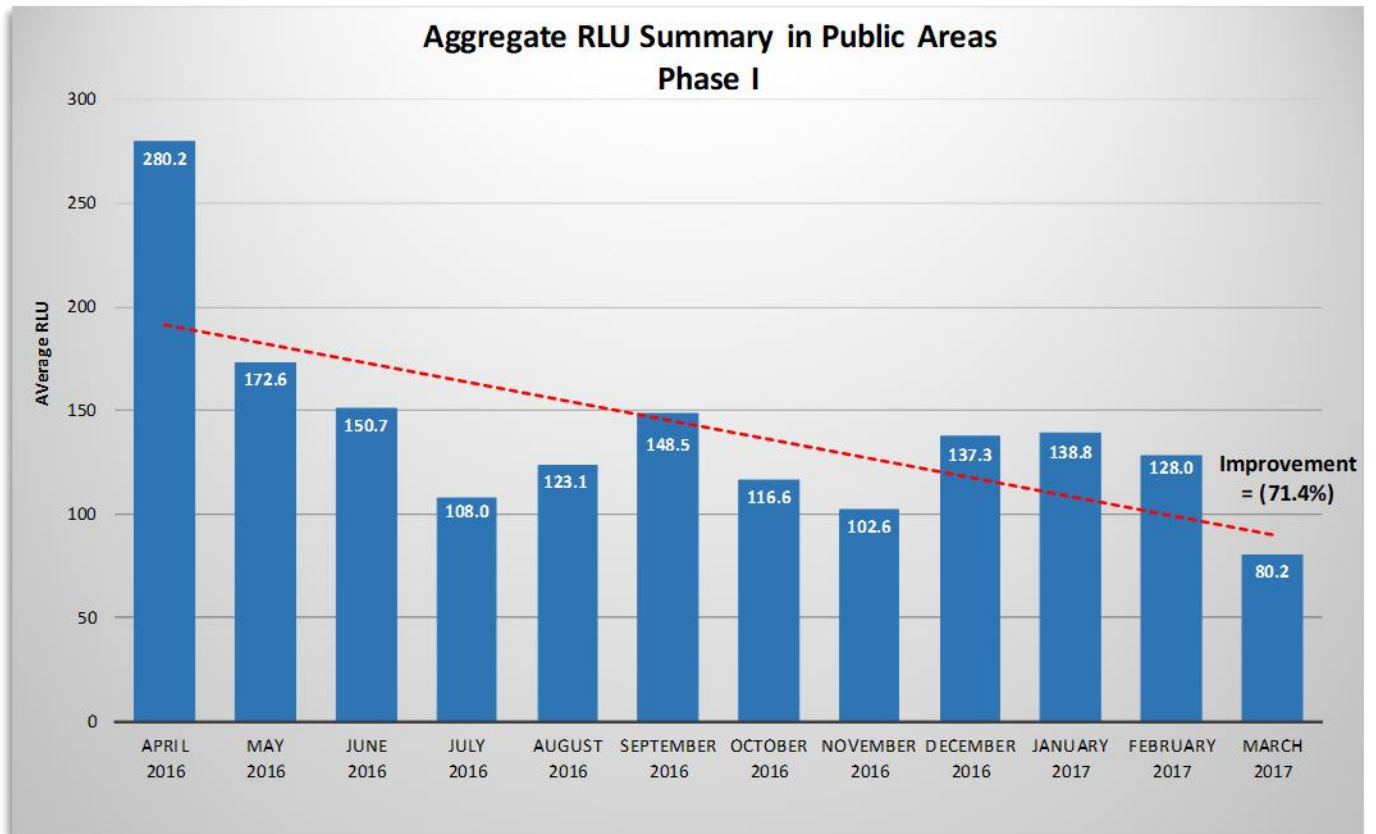
Source: Clean Collaborative Portal; submitted by participants

Measure Definition: RLU (Relative Light Units); lower Average RLUs are better.

## RLUs in Public Areas

Base Period: N/A

Measure Period: April 2016 – March 2017



Source: Clean Collaborative Portal; submitted by participants

Measure Definition: RLU (Relative Light Units); lower Average RLUs are better.

**Maryland Patient Safety Center  
Clean Environment Collaborative  
Phase I: April 2016 - March 2017  
Data Source: Clean Collaborative Portal**

PHASE I

Month.Year	Patient Room RLU's	Public Area RLU's
<b>April 2016 (Collaborative Start Date)</b>	<b>231.78</b>	<b>280.18</b>
May 2016	90.72	172.56
June 2016	49.30	150.73
July 2016	67.36	107.97
August 2016	33.87	123.09
September 2016	45.86	148.47
October 2016	44.77	116.57
November 2016	46.03	102.55
December 2016	49.09	137.25
January 2017	44.95	138.80
February 2017	55.10	128.01
<b>March 2017 (Collaborative End Date)</b>	<b>38.39</b>	<b>80.18</b>
<b>Improvement</b>	<b>(83.4%)</b>	<b>(71.4%)</b>

**Maryland Patient Safety Center  
Neonatal Abstinence Syndrome  
Measure Period: October 2016 - September 2018**

**1. Transfers**

Data Source: Lawrence Reid via confidential data received from St. Paul  
(Infants with NAS transferred to higher level nursery and specialty hospital which includes MWPH)

Year.Quarter	Number	Percent
<b>2016.1 (Base Period)</b>	<b>34</b>	<b>17.1</b>
2016.2	27	12.9
2016.3	21	8.1
2016.4 (Collaborative Kicked-Off)	27	11.8
2017.1	13	5.4
2017.2	14	7.4
<b>2017.3</b>	<b>25</b>	<b>10.4</b>

**Improvement** (39.2%)

**2. Length of Stay**

Data Source: Statewide non-confidential data received from St. Paul (V34)

Time Period	2016 Q4 (Collaborative Start Date)	2017 Q1	2017 Q2	2017 Q3	2017 Q4	CY17 Total
# of NAS Newborns	238	239	199	252	244	934
Total Length of Stay (days)	3,721	3,328	2,906	3,737	3,334	13,305
<b>Average Length of Stay (days)</b>	<b>15.6</b>	13.9	14.6	14.8	13.7	<b>14.2</b>
# of Mortalities	0	0	0	0	1	1
Total Charges	\$5,098,313	\$3,919,594	\$4,883,013	\$5,296,220	\$4,351,415	\$18,450,242
Average Cost per Newborn	\$21,421	\$16,400	\$24,538	\$21,017	\$17,834	\$19,754
Average Charge per Day	\$1,370	\$1,178	\$1,680	\$1,417	\$1,305	\$1,387

**Length of Stay Improvement** (8.9%)

**Maryland Patient Safety Center  
Neonatal Abstinence Syndrome  
Measure Period: October 2016 - September 2018**

**3. Cost Savings**

Data Source: Statewide non-confidential data received from St. Paul (V34)

Time Period	2016 Q4 (Collaborative	2017 Q1	2017 Q2	2017 Q3	2017 Q4	CY17 Total
	Start Date)					
# of NAS Newborns	238	239	199	252	244	934
Total Length of Stay (days)	3,721	3,328	2,906	3,737	3,334	13,305
Average Length of Stay (days)	15.6	13.9	14.6	14.8	13.7	14.2
# of Mortalities	0	0	0	0	1	1
Total Charges	\$5,098,313	\$3,919,594	\$4,883,013	\$5,296,220	\$4,351,415	\$18,450,242
Average Cost per Newborn	\$21,421	\$16,400	\$24,538	\$21,017	\$17,834	\$19,754
Average Charge per Day	\$1,370	\$1,178	\$1,680	\$1,417	\$1,305	\$1,387
Decrease in LOS (Days)	1.39	2017 Q4 - CY17 YTD				
Average Cost per Day	\$1,387	2017 Q1 - 2017 Q4				
Average Savings per Newborn	\$1,927					
<b>Total Cost Savings</b>	<b>\$1,799,373</b>	2017 Q1 thru 2017 Q4				

**Step by Step Process:**

- 1) Decrease in LOS (2016 Q4 - 2017 Q4): 15.6 days - 14.2 days = 1.39 days
- 2) Average Cost per Day = (The Total Charges from 2017 Q1 - 2017 Q4) / (The Total Length of Stay from 2017 Q1 - 2017 Q4)  
 $\$18,450,242 / 13,305 \text{ days} = \$1,387/\text{per day}$
- 3) Average Savings per Newborn = Average Cost per Day \* Decrease in LOS  
 $\$1,387 * 1.39 \text{ days} = \$1,927$
- 4) Total Cost Savings = Average Savings per Newborn \* Total NAS Newborns from 2017 Q1 - 2017 Q4  
 $\$1,927 * 934 \text{ newborns} = \$1,799,373$

**Maryland Patient Safety Center  
Reducing First Time C-Sections Collaborative  
Measure Period: June 2016 - June 2018**

**1. Improving Rates**

Data Source: AIM Portal; data submitted by participants

**NTSV C-Section Rates  
Maryland Collaborative-Wide Rates**

Quarter	Numerator	Denominator	Rate
Q3 2014	1,705	5,976	28.5%
Q4 2014	1,765	5,653	31.2%
Q1 2015	1,634	5,337	30.6%
Q2 2015	1,600	5,321	30.1%
Q3 2015	1,696	5,772	29.4%
Q4 2015	1,654	5,613	29.5%
Q1 2016 (Base)	1,491	5,241	28.4%
Q2 2016 (Collaborative Start)	1,529	5,392	28.4%
Q3 2016	1,573	5,793	27.2%
Q4 2016	1,506	5,418	27.8%
Q1 2017	1,398	4,892	28.6%
Q2 2017	1,383	5,130	27.0%
Q3 2017	1,552	5,528	28.1%
Q4 2017	1,508	5,444	27.7%
12 month Base Period (Q2 2015 - Q1 2016)	6,441	21,947	29.3%
CY17 YTD	5,841	20,994	27.8%
<b>Improvement</b>			<b>(5.2%)</b>

**NTSV C-Section Rates After Labor Induction  
Maryland Collaborative-Wide Rates**

Quarter	Numerator	Denominator	Rate
Q3 2014	683	1,918	35.6%
Q4 2014	733	1,938	37.8%
Q1 2015	705	1,798	39.2%
Q2 2015	632	1,697	37.2%
Q3 2015	709	1,908	37.2%
Q4 2015	695	1,866	37.2%
Q1 2016 (Base)	643	1,725	37.3%
Q2 2016 (Collaborative Start)	677	1,921	35.2%
Q3 2016	705	2,020	34.9%
Q4 2016	630	1,886	33.4%
Q1 2017	608	1,808	33.6%
Q2 2017	621	1,858	33.4%
Q3 2017	667	1,937	34.4%
Q4 2017	664	1,963	33.8%
12 month Base Period (Q2 2015 - Q1 2016)	2,679	7,196	37.2%
CY17 YTD	2,560	7,566	33.8%
<b>Improvement</b>			<b>(9.1%)</b>

**Maryland Patient Safety Center**  
**Reducing First Time C-Sections Collaborative**  
**Measure Period: June 2016 - June 2018**

**2. Cost Avoidance**

[1] Data Source: Statewide non-confidential data received from St. Paul (V34)  
 [2] Data Source for NTSV C-Sections: AIM Portal; data submitted by participants

<b>2015 - 2017 Data</b> <sup>[1]</sup>	<b>Cesarean Delivery</b>	<b>Vaginal Delivery</b>
# of Births	67,814	132,069
Total Charges	\$635,568,427	\$986,582,790
Average Charge	\$9,372	\$7,470

<b>2015 - 2017 Data</b> <sup>[2]</sup>	
# of NTSV C-Sections in 2015	6,584
# of NTSV C-Sections in 2017	5,841
Reduction in NTSV C-Sections	743
<b>Projected Savings</b>	<b>\$1,413,203</b>

**Step by Step Process:**

- 1) Reduction in NTSV C-Sections = (NTSV C-Sections in 2015) - (NTSV C-Sections in 2017)  
 6,584 - 5,841 = 743
- 2) Projected Savings = (Reduction in NTSV C-Sections) \* (Difference in average charges between Cesarean and Vaginal Deliveries)  
 743 \* \$1,902 = \$1,413,203

**3. Maternal Mortality Risks**

Data Source: The American College of Obstetricians and Gynecologists (ACOG)

<b>Risks</b>	<b>Cesarean Delivery</b>	<b>Vaginal Delivery</b>
Overall Severe Morbidity	9.2%	8.6%
Overall Severe Mortality	2.7%	0.9%
<b>Maternal Mortality</b>	<b>13.3 per 100,000 births</b>	<b>3.6 per 100,000 births</b>
Amniotic Fluid Embolism	15.8 per 100,000 births	3.3 per 100,000 births
Respiratory Morbidity	1.0 - 4.0%	< 1.0%

**4. C-Section Reductions**

Data Source for NTSV C-Sections: AIM Portal; data submitted by participants

<b>Cesarean Delivery</b>	
NTSV C-Sections in 2015	6,584
NTSV C-Sections in 2017	5,841
<b>Reduction in NTSV C-Sections</b>	<b>743</b>

**Maryland Patient Safety Center**  
**Improving Sepsis Survival Collaborative**  
**Cohort I Measure Period: July 2014 - June 2016**  
**Cohort II Measure Period: April 2015 - April 2017**

**1. Cohort I & Cohort II**

Data Source: Statewide non-confidential data received from St. Paul (V34)

<b>Cohort I</b>	<b>Q3 2013 - Q2 2014</b>	<b>CY17 YTD</b>	<b>Results</b>
Severe Sepsis:			
<b>Mortality Rate</b>	<b>18.0%</b>	<b>10.0%</b>	<b>(44.3%)</b>
Septic Shock:			
<b>Mortality Rate</b>	<b>33.6%</b>	<b>29.1%</b>	<b>(13.4%)</b>
Severe Sepsis and Septic Shock:			
<b>Overall Mortality Rate</b>	<b>26.4%</b>	<b>21.7%</b>	<b>(17.7%)</b>

<b>Cohort II</b>	<b>Q2 2014 - Q1 2015</b>	<b>CY17 YTD</b>	<b>Results</b>
Severe Sepsis:			
<b>Mortality Rate</b>	<b>14.5%</b>	<b>9.5%</b>	<b>(34.3%)</b>
Septic Shock:			
<b>Mortality Rate</b>	<b>34.6%</b>	<b>30.2%</b>	<b>(12.7%)</b>
Severe Sepsis and Septic Shock:			
<b>Overall Mortality Rate</b>	<b>25.0%</b>	<b>20.4%</b>	<b>(18.4%)</b>



**Maryland Patient Safety Center**  
**Improving Sepsis Survival Collaborative**  
**Cohort I Measure Period: July 2014 - June 2016**  
**Cohort II Measure Period: April 2015 - April 2017**

**2. The Numbers Show**

Data Source: Statewide non-confidential data received from St. Paul (V34)

	Cohort I					
	Q3 2013 - Q2 2014		CY17 YTD		Improvement / Erosion	
	All Hospitals	Cohort I	All Hospitals	Cohort I	All Hospitals	Cohort I
Severe Sepsis Mortality Rate	14.7%	18.0%	9.2%	10.0%	(37.4%)	(44.3%)
Septic Shock Mortality Rate	32.7%	33.6%	32.8%	29.1%	0.3%	(13.4%)
Severe Sepsis + Septic Shock (Overall) Mortality Rate	25.3%	26.4%	23.9%	21.7%	(5.5%)	(17.8%)

	Cohort II					
	Q2 2014 - Q1 2015		CY17 YTD		Improvement / Erosion	
	All Hospitals	Cohort II	All Hospitals	Cohort II	All Hospitals	Cohort II
Severe Sepsis Mortality Rate	15.9%	14.5%	9.2%	9.5%	(42.1%)	(34.3%)
Septic Shock Mortality Rate	33.9%	34.6%	32.8%	30.2%	(3.2%)	(12.7%)
Severe Sepsis + Septic Shock (Overall) Mortality Rate	27.0%	25.0%	23.9%	20.4%	(11.5%)	(18.4%)

May 17, 2018

Ms. Katie Wunderlich  
Director, Engagement and Alignment  
Health Services Cost Review Commission  
1460 Patterson Avenue  
Baltimore, Maryland 21215

Re: Maryland Patient Safety Center Funding Request

Dear Ms. Wunderlich:

Thank you for the opportunity to submit written comments in support of our annual funding request. In that regard, the Maryland Patient Safety Center (MPSC) concurs with the staff recommendations including funding in the amount of \$429,075.

We are pleased to report a very productive nine (9) months for fiscal 2018 with regard to our safety collaboratives. Currently, MPSC is managing three (3) collaboratives involving Neonatal Abstinence Syndrome, Reducing First Time C-Sections and the Clean Collaborative which focuses on reducing levels of surface contamination toward reducing healthcare associated infections. These collaboratives are in addition to our other initiatives to include opioid education, medication reconciliation, errors in diagnosis, adverse event reporting, *Caring for the Caregiver* and patient safety certification.

### **Reducing First Time C-Section**

The first graph shows the rate of C-section deliveries among the Nulliparous, Term, Singleton Vertex populations. The NTSV population are typically low risk pregnancies and are defined as first pregnancy, term at 37 weeks or greater, one baby, head down. The rate of C-sections in this population has decreased 2.5% from the base quarter first calendar Q1 2016. However, when looking at a 12-month comparison change from Q2 2015 to Q1 2016 compared to all of 2017, we have realized a 9.1% decrease in C-sections in this population. This collaborative is scheduled to end in June 2018.

The second graph demonstrates even more significant results in the NTSV population that experienced labor induction. The C-section rate in women with induced labor experience even higher rates of C-section, but our collaborative participants have shown a 9.4% reduction of C-sections in this population, and a 9.1% decrease when using 12-month base period to 2017 comparison.

## **Neonatal Abstinence Syndrome**

Our Neonatal Abstinence collaborative work has centered on standardizing care practices in participating hospitals to improve the care of infants and their families suffering from the downstream effects of the opioid crisis.

The first graph demonstrates a 12.2% reduction in length of stay since the start of the collaborative in Q4 2016. Again, when comparing the 12 months pre-collaborative to all of 2017 we see an 8.9% decrease.

We also have focused on keeping the mother–baby dyad together when possible, as evidence demonstrates that the infants require less medication and have reduced LOS when kept with the mother. Additionally, mothers in rehab programs are more successful when they are not separated from their infants after delivery. We have had a 39.2% decrease in transfers out of the birth hospital to higher level NICUs and to extended care specialty hospitals compared to our baseline quarter of Q1 2016.

## **Improving Sepsis Survival**

Although our Sepsis Collaborative ended in Q2 2016 for Cohort I and in Q2 2017 for Cohort II, we have continued to monitor the sustainability of our work. As you can see in each graph both Cohorts have continued to decrease their sepsis mortality rates.

## **Clean Collaborative**

This collaborative engages participants in improving practices in surface decontamination for the purpose of reducing healthcare associated infections in their facilities. Phase I was a one year collaborative that completed in March of 2017. Relative light units (RLUs) are an objective measure of contaminants on a surface with the lower the RLUs, the cleaner the surface. Collaborative participants decreased the RLUs in prescribed surfaces by 83.4%. Samples were taken in cleaned patient rooms as well as public areas such as public bathrooms, elevators and cafeteria tables. The table included shows that the patient rooms had an 83.4% reduction in RLUs and the public areas had an improvement of 71.4%. Phase II commenced in March of 2018 and therefore, it is too early in our data collection to report on the results of that group of 17 participating facilities.

Beyond the data and graphs I would like to call your attention to some other statistics and highlights I feel are equally compelling.

From a participation perspective, I am very pleased to report that for the first nine months of this fiscal year, the majority of our training classes have been at or near capacity with several classes even seeing waitlists. In addition, attendance at our fall medication safety conference more than doubled from last year to over 400 participants. Our recently concluded annual patient safety conference attracted over 1500 attendees from providers throughout the state representing a wide range of professions to include physicians, nurses, respiratory therapists, risk managers and safety and quality professionals, to name but a few.

Our patient safety officer forums and PSO Safe Table continue to be extremely well attended and valued forums for the free exchange of patient safety and quality issues from the majority of Maryland hospitals.

Our Perinatal / Neonatal quality collaborative enjoys participation from all 32 birthing hospitals. 30,445 education modules on Neonatal Abstinence Syndrome have been completed by the clinicians at our NAS participating hospitals. Our NAS work and related statewide level of engagement has been highlighted at the nation's premier neonatal-perinatal conference two years running. Additionally, MPSC has been sought out to consult with health departments and other perinatal / neonatal quality collaboratives in states to include: Virginia, West Virginia, Kansas and Pennsylvania for our expertise in developing a statewide collaborative.

We are also proud to report that we have 44 dues-paying members and 42 members of our federal patient safety organization – an increase in membership from 7 facilities in 2012.

The results from our Clean Collaborative, aimed at reducing healthcare acquired infections, were recently published in two industry publications: *Infection Control Today* and *The American Journal of Infection Control*.

Our adverse event reporting has increased significantly to 23,000 individual reports from 11 facilities. This is compared to zero reports prior to 2015.

The *Caring for the Caregiver* program is attracting attention throughout the country with the program now in operation in several Maryland hospitals and hospitals in South Carolina and Texas, and soon to be installed in hospitals in California, Georgia and Illinois. We have received inquiries and interest in the program from as far away as Poland, Saudi Arabia and United Arab Emirates. This and our Certification program will continue to help us expand and diversify our revenue and as result, reduce and eventually eliminate our dependence on HSCRC funding.

MPSC, even more today, is the only organization in the state that is able to serve as an independent, non-institutionally biased convener/facilitator for all Maryland providers. Our shared learning model is the only vehicle for providers to learn and share best practices and exchange their successes and challenges in a free and open forum. While providers well may be addressing today's issues, without MPSC they do so in silos. Without the ability to share and learn from others, whatever work is being conducted becomes limited. MPSC provides the best opportunity for this very necessary exchange of ideas and for all to work cooperatively and collaboratively. We, along with the other members of the Board, strongly believe that MPSC brings real and tangible value to Maryland patients and providers and that our continually increasing rates of participation by members and non-members alike validate this.

Thank you for consideration of our request and for the many years of support for MPSC.

Sincerely,



James Rost, MD  
Chair



Robert H. Imhoff III  
President and CEO

**Final Staff Recommendation  
Changes to Relative Value Units for Respiratory Therapy  
and Pulmonary Function Testing Services  
Effective July 1, 2018**

June 13, 2018

Health Services Cost Review Commission

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

This document contains the final staff recommendations for changes to Relative Value Units for Respiratory Therapy and Pulmonary Function Testing Services effective July 1, 2018, ready for Commission discussion and vote.

## **RECOMMENDATION**

The Commission staff recommends that the Commission approve revisions to the Relative Value Unit (RVU) Scale for Respiratory Therapy (RES) and Pulmonary Function Testing (PUL) services. The revisions are specific to Chart of Accounts and Appendix D of the Accounting and Budget Manual. These revised RVUs were developed by a workgroup established by the Health Services Cost Review Commission. The workgroup's membership included representatives of many Maryland hospitals.

The RVU scale was updated to reflect new additions to the Current Procedural Terminology (CPT) codes; to reflect changes in clinical practices; and to eliminate the reporting of "By Report" to ensure standardized charging practices for RES and PUL services. The proposed changes were sent to all hospitals for comment. The comment period closed on May 30, 2018 with no comment. Hospitals will be required to calculate a conversion factor to assure no change in hospital revenue as a result of this revision. Hospitals will begin using these revised RVUs effective July 1, 2018.

**SECTION 200**  
**CHART OF ACCOUNTS**

7440                    PULMONARY FUNCTION TESTING

Function

Pulmonary Function Testing services tests patients through measurement of inhaled and exhaled gases and analysis of blood, and evaluation of the patient's ability to exchange oxygen and other gases under the order of a qualified healthcare provider (QHCP). This function is performed by specially trained personnel who initiate, monitor and evaluate patient performance, cooperation, and ability during testing procedures.

Description

This cost center contains all the direct expenses incurred in the testing necessary for diagnosis and treatment of disorders affecting the cardio-pulmonary system. Included as direct expenses are: salaries and wages, employee benefits, supplies, purchased services, other direct expenses, and transfers.

Standard Unit of Measure: Relative Value Units

Relative Value Units as determined by the Health Services Cost Review Commission (see Appendix D of this manual).

Data Source

The number of Relative Value Units shall be an actual count maintained by the Pulmonary Function Testing cost center.

Reporting Schedule

Schedule D - Line D37

## SECTION 200 CHART OF ACCOUNTS

7420                    RESPIRATORY THERAPY

Respiratory Therapy is the medical service that maintains or improves the function of the respiratory system including the administration of oxygen and other pharmaceuticals and other forms of therapy as prescribed by physicians or other qualified healthcare professionals (QHCP). This function is performed by Respiratory Care Practitioners (RCP), specially trained personnel who initiate, monitor, and evaluate patient performance, cooperation and ability during testing procedures. These procedures and services provided by the RCPs are found in [https://www.mbp.state.md.us/licensure\\_ahapp\\_resp.aspx](https://www.mbp.state.md.us/licensure_ahapp_resp.aspx). Examples of these activities include, but are not limited, to the following:

Reviving and maintaining patients' vital life signs; maintaining open airways, breathing and blood circulation; maintaining aseptic conditions; transporting equipment to patients' bedsides; observing and instructing patients during therapy; visiting all assigned patients to ensure that QHCP's orders are being carried out; inspecting and testing equipment; enforcing safety rules; and calculating and interpreting test results and all aspects of the Maryland ~~RT~~ Respiratory Care Scope of Practice.

### Description

This cost center contains all direct expenses incurred in the administration of respiratory therapy. Included as direct expenses are: salaries and wages, employee benefits, supplies, purchased services, other direct expenses, and transfers.

### Standard Unit of Measure: Relative Value Units

Relative Value Units as determined by the Health Services Cost Review Commission (see Appendix D of this manual).

### Data Source

The number of Relative Value Units shall be the actual count maintained by the Respiratory Therapy cost center.

### Reporting Schedule

Schedule D- Line D36



**APPENDIX D**  
**STANDARD UNIT OF MEASURE REFERENCES**  
**RESPIRATORY THERAPY & PULMONARY FUNCTION TESTING**

**ACCOUNT NUMBER**

**7420**

**7440**

**COST CENTER TITLE**

**Respiratory Therapy**

**Pulmonary Function Testing**

Respiratory Therapy and Pulmonary Function Testing encompass services that respiratory care practitioners and specially trained pulmonary function teams provide. In keeping with the principles in the Medicare Hospital Manual §210.10, when a respiratory therapist or pulmonary function technologist provides these services, they are reportable as respiratory or pulmonary services, in accordance with the Code of Maryland Regulations (COMAR) for scope of service. If a nurse or other health care team member provides the services, they are considered a component of the patient day or visit, and they are not separately reportable.

**Approach**

Respiratory Therapy (RES) and Pulmonary Function (PUL) Relative Value Units (RVUs) were developed with the aid of an industry task force under the auspices of and approved by the Health Services Cost Review Commission. The descriptions of codes in this section of Appendix D were obtained from the 2018 edition of the Current Procedural Terminology (CPT) manual and the 2018 edition of the Healthcare Common Procedure Coding System (HCPCS). In addition, for those services requiring usage of an “unlisted” CPT code, the task force developed a description for the service. In assigning RVUs, the task force used the procedure minutes established in the 2012 AARC Uniform Reporting Manual as a reference with a ratio of 1 minute = 1 RVU. RVUs were then assigned using the following protocol (“RVU Assignment Protocol”).

**RVU Assignment Protocol**

The AARC Uniform Reporting Manual has established minutes for respiratory therapy services. The AARC established minutes based on the mean and median time to perform the service within patient categories of Adult, Pediatric and Neonatal. The median number of minutes in the Adult category ~~will be~~ has been used as the basis for RVUs as adults are the majority patient population that receives respiratory therapy and pulmonary function services. All exceptions have been noted.

1. CPT codes that were not assigned in accordance with the AARC median:
  - a. CPT 33946 [Extracorporeal membrane oxygenation {ECMO/extracorporeal life support (ECLS)} provided by physician; initiation, veno-venous] and CPT 33947 [Extracorporeal membrane oxygenation {ECMO/extracorporeal life support (ECLS)} provided by physician; initiation, veno-arterial] do not have any associated AARC minutes. These services require 1,820 minutes of staff time per initial day on average per the task force. 1,820 RVUs have been assigned.
  - b. CPT 33948 [Extracorporeal membrane oxygenation {ECMO/extracorporeal life support (ECLS)} provided by physician; daily management, each day, veno-venous] and CPT 33949 [Extracorporeal membrane oxygenation {ECMO/extracorporeal life support (ECLS)} provided by physician; daily management, each day, veno-arterial] do not have any associated AARC minutes. These services require 1,440 minutes of staff time per subsequent day on average per the task force. 1,440 RVUs have been assigned.

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

**APPENDIX D**  
**STANDARD UNIT OF MEASURE REFERENCES**  
**RESPIRATORY THERAPY & PULMONARY FUNCTION TESTING**

- c. CPT 36410 [Venipuncture, age 3 years or older] is assigned 15 minutes by the AARC. However, this procedure is typically “packaged” by Medicare and will be assigned zero (0) RVUs.
- d. CPT 36416 [Collection of capillary blood specimen (eg, finger, heel, ear stick)] has a median of 17.5 AARC minutes. However, as this is a lab service, RVUs will not be assigned. The code will remain in Appendix D and will be referenced as a lab service. The task force also noted that Medicare requests hospitals not separately report this service.
- e. CPT 92950 [Cardiopulmonary resuscitation (eg, in cardiac arrest)] has a median of 40 AARC minutes. This service typically involves includes two (2) respiratory therapists. Therefore, the task force agreed the AARC minutes would be doubled and 80 RVUs would be assigned.
- f. CPT 93463 [Pharmacologic agent administration (eg, inhaled nitric oxide, intravenous infusion of nitroprusside, dobutamine, milrinone, or other agent) including assessing hemodynamic measurements before, during, after, and repeat pharmacologic agent administration, when performed (list separately in addition to code for primary procedure)] has a median of 15.5 AARC minutes for Nitric Oxide Delivery- System Calibration and 30 AARC minutes for Nitric Oxide Delivery- Set up. The task force agreed that the minutes would be combined and 46 RVUs would be assigned. This code is sometimes referred to as a “Vaso-active challenge” test and is only used when support is provided by a respiratory therapist in the Cath Lab. This service is bundled into Inhaled Nitric Oxide Therapy, code 94799, daily reportable service, is used when provided in non-Cath lab, typically intensive care settings.
- g. CPT 93503 [Insertion and placement of flow directed catheter (eg, Swan-Ganz) for monitoring purposes] does not have any associated AARC minutes. The task force indicated that this service is currently not performed in Maryland and is a physician service. Therefore zero (0) RVUs will be assigned.
- h. CPT 94002 [Ventilation assist and management, initiation of pressure or volume preset ventilators for assisted or controlled breathing; hospital inpatient/observation, initial day] has a median of 30 AARC minutes. This service has many component services within the AARC listing. The task force agreed to assign 250 RVUs for adults and 300 RVUs for neonates based on the combined amount of time spent on direct and indirect ventilator activities/support for patients. This service bundles all services provided to ventilator patients including but not limited to mobility, transports, spontaneous mechanics, patient assessments and system checks, etc. into a once daily reportable service.
- i. CPT 94003 [Ventilation assist and management, initiation of pressure or volume preset ventilators for assisted or controlled breathing; hospital inpatient/observation, subsequent day] has a median 15 AARC minutes. This service has many component services within the AARC listing. The task force agreed to assign 250 RVUs for adults and 300 RVUs for neonates based on the combined amount of time spent on direct and indirect ventilator activities/support for patients. This service bundles all services provided to ventilator

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

**APPENDIX D**  
**STANDARD UNIT OF MEASURE REFERENCES**  
**RESPIRATORY THERAPY & PULMONARY FUNCTION TESTING**

patients including but not limited to mobility, transports, spontaneous mechanics, patient assessments and system checks, etc., into a once daily reportable service.

- j. CPT 94004 [Ventilation assist and management, initiation of pressure or volume preset ventilators for assisted or controlled breathing; nursing facility, per day] did not have assigned AARC minutes. This service is specific to a nursing facility. Therefore, zero (0) RVUs will be assigned.
- k. CPT 94005 [Home ventilator management care plan oversight of a patient (patient not present) in home, domiciliary or rest home (eg, assisted living) requiring review of status, review of laboratories and other studies and revision of orders and respiratory care plan (as appropriate), within a calendar month, 30 minutes or more] did not have assigned AARC minutes. This service is performed on patients at home or a rest home. Therefore, zero (0) RVUs will be assigned.
- l. CPT 94014 [Patient-initiated spirometric recording per 30-day period of time; includes reinforced education, transmission of spirometric tracing, data capture, analysis of transmitted data, period recalibration and review and interpretation by a physician or other qualified health care professional] and 94015 [Patient-initiated spirometric recording per 30-day period of time; recording (includes hook-up, reinforced education, data transmission, data capture, trend analysis, and periodic recalibration)] did not have assigned AARC minutes. These services are rarely performed currently, therefore, the task force agreed these codes should be reported as “By Report.”
- m. CPT 94016 [Patient-initiated spirometric recording per 30-day period of time; review and interpretation only by a physician or other qualified health care professional] did not have assigned AARC minutes. This is a physician only service, therefore zero (0) RVUs will be assigned.
- n. CPT 94150 [Vital capacity, total (separate procedure)] did not have assigned AARC minutes. The task force briefly discussed this code and agreed that the current 18 RVUs per Appendix D are still valid. Therefore, 18 RVUs will be assigned to this code. See note regarding SEPARATE PROCEDURES.
- o. CPT 94250 [Expired gas collection, quantitative, single procedure (separate procedure)] did not have assigned AARC minutes. This code is similar in time and resources to CPT 94400. Therefore, 30 RVUs will be assigned. See note regarding SEPARATE PROCEDURES.
- p. CPT 94375 [Respiratory flow volume loop] did not have assigned AARC minutes. This procedure is bundled into spirometry therefore zero (0) RVUs will be assigned.
- q. CPT 94450 [Breathing response to hypoxia (hypoxia response curve)] has 60 AARC minutes. This code will be assigned 30 RVUs as it is more similar to CPT 94400 [Breathing response to CO<sub>2</sub>, CO<sub>2</sub> response curve].
- r. CPT 94453 [High altitude simulation test (HAST), with interpretation and report by a physician or other qualified health care professional; with supplemental oxygen titration] did not have assigned AARC minutes. This service is similar to CPT 94452 (45 RVUs) and therefore will be assigned 45 RVUs.
- s. CPT 94617 [Exercise test for bronchospasm, including pre-and post-spirometry, electrocardiographic recording(s), and pulse oximetry] did not have assigned AARC

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

**APPENDIX D**  
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- minutes. This service is similar to deleted CPT 94620 [Exercise-Induced Bronchospasm Challenge] with median minutes of 71 therefore, 71 RVUs will be assigned.
- t. CPT 94618 [Pulmonary stress testing (eg, 6-minute walk test), including measurement of heart rate, oximetry, and oxygen titration, when performed] did not have assigned AARC minutes. This code was similar to deleted CPT 94620 [Shuttle Walk Test] with median minutes of 30 therefore, 30 RVUs will be assigned.
  - u. CPT 94621 [Pulmonary stress testing; complex (including measurements of CO<sub>2</sub> production, O<sub>2</sub> uptake, and electrocardiographic recordings)] has 30 AARC minutes. This code will be assigned 90 minutes as complex pulmonary stress testing should be higher than the simple pulmonary stress testing RVUs.
  - v. CPT 94640 [Pressurized or nonpressurized inhalation treatment for acute airway obstruction for therapeutic purposes and/or for diagnostic purposes such as sputum induction with an aerosol generator, nebulizer, metered dose inhaler or intermittent positive pressure breathing (IPPB) device] is reportable once per encounter. An encounter starts when the patient enters the facility and ends when the patient leaves the facility. The time involved with this service varies with each patient and is considerably different between an inpatient and outpatient; as such, there is a different RVU based upon patient classification. An inpatient may receive on average of 6 treatments per day with each treatment requiring 20 minutes of clinical care time. An average stay for these patients may be 4 days. Calculation: 6 treatments x 20 minutes per treatment x 4 days = 480 minutes. An outpatient receives on average 2 treatments per day with each treatment requiring 20 minutes of clinical care time. Calculation: 2 treatments x 20 minutes per treatment = 40 minutes/RVUs.
  - w. CPT 94642 [Aerosol inhalation of Pentamidine for pneumocystis carinii pneumonia treatment or prophylaxis] did not have AARC minutes. This procedure is about 60 minutes in duration. Therefore, 60 RVUs will be assigned.
  - ~~x.~~ CPT 94660 [Continuous positive airway pressure ventilation (CPAP), initiation and management] did not have AARC minutes. This service requires an average of six separate respiratory therapist visits per day with an average of 20 minutes each. Therefore, 120 RVUs will be assigned to this code. This service is inclusive of respiratory therapist time. Home equipment used only in the absence of respiratory therapist time is not reportable.
  - y. CPT 94662 [Continuous negative pressure ventilation (CNP), initiation and management] did not have AARC minutes. This service requires an average of six separate respiratory therapist visits per day with an average of 20 minutes each. Therefore, 120 RVUs will be assigned to this code.
  - z. CPT 94669 [Mechanical chest wall oscillation to facilitate lung function, per session] did not have AARC minutes. This procedure is approximately 30 minutes in duration. Therefore, the task force agreed to assign 30 RVUs to this code. This is not to be reported with CPT 94667 [Manipulation chest wall; Initial demonstration] and CPT 94668 [Manipulation chest wall; Subsequent demonstration].

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

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- aa. CPT 94680 [Oxygen uptake, expired gas analysis; rest and exercise, direct, simple] did not have AARC minutes. This procedure is approximately 75 minutes in length. Therefore, 75 RVUs will be assigned to this code.
- bb. CPT 94681 [Oxygen update, expired gas analysis; including CO<sub>2</sub> output, percentage oxygen extracted] did not have AARC minutes. This procedure is similar to CPT 94621 [Pulmonary Stress Testing, complex...] in time and resources, which is assigned 90 RVUs. Therefore, 90 RVUs will be assigned to this code.
- cc. CPT 94727 [Gas dilution or washout for determination of lung volumes and, when performed, distribution of ventilation and closing volumes] did not have AARC minutes. This procedure is similar to CPT 94726 (Plethysmography for determination of lung volumes and when performed, airway resistance) in time and resources, which is assigned 19 RVUs. Therefore, 19 RVUs will be assigned to this code.
- dd. CPT 94750 [Pulmonary compliance study (eg, plethysmography, volume and pressure measurements] did not have AARC minutes. This procedure is approximately 30 minutes in length. Therefore, 30 RVUs will be assigned to this code.
- ee. CPT 94761 [Noninvasive ear or pulse oximetry for oxygen saturation; multiple determinations (eg, during exercise)] has a median of 20 AARC minutes. The task force agreed that 20 RVUs was not sufficient for this procedure as this typically takes 30 minutes. Therefore 30 RVUs will be assigned to this code.
- ff. CPT 94762 [Noninvasive ear or pulse oximetry for oxygen saturation; by continuous overnight monitoring (separate procedure)] has a median of 20 AARC minutes. The task force agreed that 20 RVUs was not sufficient for this procedure as this typically takes 30 minutes as it is a separate procedure that includes downloading and reporting. Therefore 30 RVUs will be assigned to this code. See note regarding SEPARATE PROCEDURES.
- gg. CPT 94770 [Carbon dioxide, expired gas determination by infrared analyzer] has a median of 7 AARC minutes. The task force referenced applicable to bedside end tidal CO<sub>2</sub> procedures, and agreed that 7 RVU was not sufficient for this procedure it typically takes 40 minutes. Therefore, 40 RVUs will be assigned to this code.
- hh. CPT 94774 [Pediatric home apnea monitoring event recording including respiratory rate, pattern and heart rate per 30-day period of time; includes monitor attachment, download of data, review, interpretation, and preparation of a report by a physician or other qualified health care professional] did not have AARC minutes. This code will be assigned zero (0) RVUs as this is a global CPT not to be used by hospitals.
- ii. CPT 94775 [Pediatric home apnea monitoring event recording including respiratory rate, patten and heart rate per 30-day period of time; monitor attachment only (includes hook-up, initiation of recording and disconnection)] did not have AARC minutes. This service is currently not being reported. The task force agreed that this should remain in Appendix D for future reporting and RVUs should be established “By Report.”
- jj. CPT 94776 [Pediatric home apnea monitoring event recording including respiratory rate, patten and heart rate per 30-day period of time; monitoring, download of information, receipt of transmission(s) and analyses by computer only] did not have AARC minutes. This code will be assigned zero (0) RVUs as the patient is not present at the hospital.

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

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- kk. CPT 94777 [Pediatric home apnea monitoring event recording including respiratory rate, pater and heart rate per 30-day period of time; review, interpretation and preparation of report only by a physician or other qualified health care professional] did not have AARC minutes. This code will be assigned zero (0) RVUs as this is a physician service.
- ll. CPT 9780 [Car seat/bed testing for airway integrity, neonate, with continual nursing observation and continuous recording of pulse oximetry, heart rate and respiratory rate, with interpretation and report; 60 minutes] did not have AARC minutes. Per the AMA description, this procedure is 60 minutes. Therefore, 60 RVUs will be assigned.
- mm. CPT 94781 [Car seat/bed testing for airway integrity, neonate, with continual nursing observation and continuous recording of pulse oximetry, heart rate and respiratory rate, with interpretation and report each additional full 30 minutes (List separately in addition to code for primary procedure)] did not have AARC minutes. Per the AMA description, this procedure is 30 minutes. Therefore, 30 RVUs will be assigned.
- nn. CPT 99406 [Smoking and tobacco use cessation counseling visit; intermediate, greater than 3 minutes up to 10 minutes] did not have AARC minutes. Per the AMA description, this service is up to 10 minutes. Therefore, 10 RVUs will be assigned.
- oo. CPT 99407 [Smoking and tobacco use cessation counseling visit; intensive, greater than 10 minutes] did not have AARC minutes. Per the AMA description, this service is 10 minutes or greater. Based on discussion from clinical staff, the task force agreed that this service is approximately 20 minutes. Therefore, 20 RVUs will be assigned.
- pp. CPT 99464 [Attendance at delivery (when requested by the delivering physician or other qualified health care professional) and initial stabilization of newborn] has a median of 35 AARC minutes. The task force referenced applicable time and support and agreed that 35 minutes was not sufficient. After discussion, the task force agreed that this procedure requires approximately 60 minutes. Therefore, 60 RVUs will be assigned.
- qq. HCPCS G0237 [Therapeutic procedures to increase strength or endurance of respiratory muscles, face to face, one on one, each 15 minutes (includes monitoring)] did not have AARC minutes. Per the AMA description, this service is each 15 minutes. Therefore, 15 RVUs, for each 15 minutes, will be assigned.
- rr. HCPCS G0238 [Therapeutic procedures to improve respiratory function, other than described by G0237, one on one, face to face, per 15 minutes (includes monitoring)] did not have AARC minutes. Per the AMA description, this service is each 15 minutes. Therefore, 15 RVUs, for each 15 minutes, will be assigned.
- ss. HCPCS G0239 [Therapeutic procedures to improve respiratory function or increase strength or endurance of respiratory muscles, two or more individuals (includes monitoring)] did not have AARC minutes. The ratio of care team provider to patient is ~~often~~ generally 1:4 and sessions last one hour. Therefore, 15 RVUs (60 minutes/4 patients) will be assigned.
- tt. HCPCS G0424 [Pulmonary rehabilitation, including exercise (includes monitoring), one hour, per session, up to two sessions per day] did not have AARC minutes. The ratio of care team provider to patient is often 1:4 and sessions last one hour. The first and last sessions typically requires one-on-one time. Therefore, 18 RVUs (60 minutes/4 patients plus additional time to account for the first and last sessions) will be assigned.

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

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**SERVICES WITHOUT AN ASSIGNED CPT CODE**

Various respiratory services do not have assigned CPT codes. These services will be included in Appendix D under CPT 94799. For all other usage of 94799, the RVU is “by report” and will require development based on minutes of staff time required.

- a. Aerosol Therapy-
  - a. Continuous aerosol mist= 30 RVUs/day. Note: Daily oxygen is bundled with this service.
  - b. Continuous nebulization- non-bronchodilator= 250 RVUs/day. Used for continuous nebulization of non-bronchodilator medications, includes pulmonary vasodilator medications, antibiotics, or any non-bronchodilator nebulized medication administered.

Patients receiving more than one of the types of aerosol therapies listed above report the highest complexity service Ie) Cont Aerosol mist + Cont Neb-BD: Report ONLY Cont Neb-BD; Ie) Cont Neb-BD + Cont Neb-Non BD: Report ONLY Cont Neb-Non BD. A second less complex aerosol therapy is bundled into the highest complexity service.

- b. Arterial blood sampling via indwelling catheter – This service is bundled with other services and not to be reported separately.
- c. Gas Therapies –
  - a. High Flow Oxygen – This procedure requires an average of six ~~checks~~ patient visits per day with an average of 20 minutes per check. Therefore, 120 RVUs/day will be assigned to this code.
  - b. Inhaled Nitric Oxide – Therapeutic gas administration for the treatment of Pulmonary Hypertension and other related conditions in patients who have this condition or related disease processes primarily in newborns and adults who exhibit signs of Pulmonary Hypertension. May also be used to treat reperfusion injury as in patients who have received heart and/or lung transplants. The task force agreed this service is similar in time and resources to CPT 94002 [Ventilation assist and management] therefore 250 RVUs/day will be assigned.
  - c. Alternative Gases- The administration of gases or mixtures of gases other than the traditional administration of oxygen or medical air. Administration requires procuring special equipment, special expertise, and additional time in providing this gas and systems to patients. Examples of these gases are Helium, Helium oxygen measures, Carbon dioxide and mixtures, and Nitrogen gas mixtures excluding Nitric Oxide. The task force agreed this service is similar in time and resources as High Flow Oxygen therefore 120 RVUs/day will be assigned.
  - d. Oxygen – This is all-inclusive rate for oxygen that is not high flow nasal cannula oxygen. The task force assigned 20 RVUs per day based on the average amount of minutes required for this service. This service may not be reported with CPT 94799 [Aerosol Therapy]. Daily care and cleaning of transtracheal oxygen catheter is not to be separately reported.
- d. Bedside pulmonary mechanics – Non-vent- Used only for spontaneous breathing, non-ventilator patients, as a diagnostic measure of respiratory muscle strength, volumes, and capacities. Includes, not limited to, negative inspiratory force, tidal volume, and minute volumes. This must

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be performed stand-alone to be reported. The task force recommended using the AARC median minutes of 15. Therefore 15 RVUs will be assigned.

- e. Generation of Non-Emergent NIV patient compliance study – The task force recommended using the AARC median minutes of 15. Therefore 15 RVUs will be assigned.
- f. Incentive spirometry – This service is not to be reported separately; generally is performed by nursing and it does not meet the requirements of the spirometry CPT 94010. This is assigned zero (0) RVUs.
- g. Comprehensive Patient Assessment- The process of gathering and evaluating data from a complete medical record, consultations, physiologic monitors, that does not lead to the immediate administration of another respiratory service/treatment. This service is not intended to be used for routine Respiratory Assess and Treat order and must be specifically ordered and provided stand alone. There is a maximum of once/day allowed. This service is approximately 20 minutes in duration, therefore, 20 RVUs will be assigned.
- h. Manual ventilation – This cannot be reported with ventilator or rapid response service. The task force recommended keeping this service weighted at 15 RVUs per quarter hour.
- i. Nasopharyngeal airway- This service is bundled with other services and not separately reportable. This is assigned zero (0) RVUs.
- j. Peak flow/spirometry monitoring – This service is bundled with other services and not separately reportable. This is assigned zero (0) RVUs.
- k. Mini broncho alveolar lavage (BAL) – This is for stand-alone usage only and would not be ~~charged~~ reported in addition to other bedside procedural assist. The task force recommended ~~used~~ using the AARC median minutes of 30. Therefore 30 RVUs will be assigned.

This activity describes the collection of a non-bronchoscopic bronchoalveolar lavage to obtain fluid specimen for the diagnosis of ventilator associated pneumonia.

- l. Bedside Procedural Assistance – This is used when respiratory therapists assist physicians or other authorized providers with complex bedside procedures including but not limited to bedside bronchoscopy, laryngoscopy, endoscopy, lung biopsy, chest tube insertion, percutaneous tracheostomy, A-line insertion, peripherally inserted central catheter (PICC), thoracentesis, cricothyrotomy, central line insertion pulmonary artery catheter setup, and hemodynamic monitoring/measurements. The task force assigned 30 minutes for this service based on the average amount of support time. Therefore 30 RVUs will be assigned.
- m. Rapid response –This service is reportable once per rapid response event and may not be used in combination with Cardiopulmonary Resuscitation. These events typically require an average of 30 minutes of support. Therefore 30 RVUs will be assigned.
- n. Bedside Sleep Apnea Screening- The application of an Impedance Monitoring system to assess a patient's ventilatory pattern with periodic evaluation of patient. When in hospital bedside sleep apnea screenings are performed by inpatient respiratory therapists as a separate service, average amount of support time 30 minutes. Therefore 30 RVUs will be assigned.
- o. Speech Services-The task force agreed certain services are reportable via the Speech Therapy rate center/assigned zero (0) RVUs
  - a. Placement/Removal of Assistive Speech Value

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services



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- b. Transdiaphragmatic pressure
- p. Subsequent Patient Assessment- Limited patient assessments are bundled with associated procedures and therefore zero (0) RVUs will be assigned.
- q. Tracheostomy Tube Care- This service cannot be charged with ventilator daily charges. For non-vent patients, the task force agreed this procedure is approximately 20 minutes. Therefore 20 RVUs will be assigned. Initial placement, daily care, and removal of tracheostomy button are bundled with this service.
- r. Transcutaneous Monitoring- Transcutaneous (existing, applied, or measured across the depth of the skin) oxygen/carbon dioxide monitoring. A method of measuring the oxygen/carbon dioxide in the blood by attaching electrodes to the skin which contain heating coils to raise the skin temperature and increase blood flow at the surface. This is similar in support time to 94770 [end tidal CO<sub>2</sub> procedure] assigned 40 RVUs. Therefore 40 RVUs will be assigned.
- s. Ventilator services- The following services are considered a component of ventilator services and not separately reportable/assigned zero (0) RVUs and are bundled into the daily vent management service.
  - a. Ambulation
  - b. Endotracheal tube re-stabilization and positioning
  - c. Extubation of Airway
  - d. FRC determination during mechanical ventilation
  - e. Maximal inspiratory and expiratory pressure (also bundled with Pulmonary Function Testing)
  - f. Monitor cuff pressure/care
  - g. Placement or change of in-line suction catheter
  - h. Prone positioning
  - i. Spontaneous breathing trial and/or screen
  - j. Static pressure/volume loop (also bundled with Pulmonary Function Testing)
  - k. Therapeutic ventilator maneuver (recruitment maneuver)
  - l. Transport/MRI ventilator use during – invasive Mechanical Ventilation
  - m. Ventilator circuit change – invasive mechanical ventilation
  - n. Work of breathing

**CPT Codes with Bundled Procedures**

CPT codes from 2018 with a surgical component have been assigned a zero (0) RVU value. If a RES or PUL CPT becomes bundled with a surgical code or replaced with a surgical code, these procedures should be charged as Interventional Radiology/Cardiovascular (IRC) and the associated costs of the procedure/service are to be reclassified to the IRC cost center. (This is minimal for Respiratory/Pulmonary Services.)

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

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**CPT Codes without an Assigned RVU Value**

RVUs for new codes developed and reported by CMS after the 2018 reporting, must be developed “By Report”. When assigning RVUs to these new codes, hospitals should use the RVU Assignment Protocol described above, where possible, using the most current AARC Uniform Reporting Manual. For codes that are not listed in the AARC Uniform Reporting Manual, hospitals should assign RVUs based on time and resource intensity of the services provided compared to like services in the department. Documentation of descriptions and the assignment of RVUs to codes not listed in Appendix D should always be maintained by the hospital.

**Separate Procedures**

These are codes that include the parenthetical statement “separate procedure”. The inclusion of this statement indicates that the procedure can only be reported when it is performed stand-alone. A “separate procedure” should not be reported when performed along with another procedure in an anatomically related region through the same skin incision or orifice, or approach.

**General Guidelines**

The AMA CPT Code will be used as the identifier throughout the system. Assigned RVUs will be strictly tied to the CPT Code.

All RVUs are per CPT unless otherwise stated.

Standard supplies and other medical equipment are part of hospital room and board and are not separately reportable and should not be assigned separately.

Drugs are NOT a routine part of any Resp/Pulm examination. These drugs should NOT be included in the RVU of the exam and are to be billed reported separately through the pharmacy. Drugs should not be assigned an RVU.

<b>CPT</b>	<b>Description</b>	<b>RVU<sup>1</sup></b>
31500	INTUBATION, ENDOTRACHEAL, EMERGENCY PROCEDURE	25
31502	TRACHEOTOMY TUBE CHANGE PRIOR TO ESTABLISHMENT OF FISTULA TRACT	22
31505	LARYNGOSCOPY, INDIRECT, DIAGNOSTIC (SEPARATE PROCEDURE)	0 See Procedure Assist
31720	CATHETER ASPIRATION (SEPARATE PROCEDURE); NASOTRACHEAL	15
33946	EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO)/EXTRACORPOREAL LIFE SUPPORT (ECLS) PROVIDED BY PHYSICIAN; INITIATION, VENO-VENOUS	1820/day

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

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<b>CPT</b>	<b>Description</b>	<b>RVU <sup>1</sup></b>
33947	EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO)/EXTRACORPOREAL LIFE SUPPORT (ECLS) PROVIDED BY PHYSICIAN; INITIATION, VENO-ARTERIAL	1820/day
33948	EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO)/EXTRACORPOREAL LIFE SUPPORT (ECLS) PROVIDED BY PHYSICIAN; DAILY MANAGEMENT, EACH DAY, VENO-VENOUS	1440/day
33949	EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO)/EXTRACORPOREAL LIFE SUPPORT (ECLS) PROVIDED BY PHYSICIAN; DAILY MANAGEMENT, EACH DAY, VENO-ARTERIAL	1440/day
36410	VENIPUNCTURE, AGE 3 YEARS OR OLDER, NECESSITATING THE SKILL OF A PHYSICIAN OR OTHER QUALIFIED HEALTH CARE PROFESSIONAL (SEPARATEPROCEDURE), FOR DIAGNOSTIC OR THERAPEUTIC PURPOSES (NOT TO BE USED FORROUTINE VENIPUNCTURE)	Report via Lab
36416	COLLECTION OF CAPILLARY BLOOD SPECIMEN (EG, FINGER, HEEL, EAR STICK)	Report via Lab
36600	ARTERIAL PUNCTURE, WITHDRAWAL OF BLOOD FOR DIAGNOSIS	15
36620	ARTERIAL CATHETERIZATION OR CANNULATION FOR SAMPLING, MONITORING OR TRANSFUSION (SEPARATE PROCEDURE); PERCUTANEOUS	30
92950	CARDIOPULMONARY RESUSCITATION (EG, IN CARDIAC ARREST)	80/ session
93463	PHARMACOLOGIC AGENT ADMINISTRATION (EG, INHALED NITRIC OXIDE,INTRA VENOUS INFUSION OF NITROPRUSSIDE, DOBUTAMINE, MILRINONE, OR OTHERAGENT) INCLUDING ASSESSING HEMODYNAMIC MEASUREMENTS BEFORE, DURING,AFTER AND REPEAT PHARMACOLOGIC AGENT ADMINISTRATION, WHEN PERFORMED(LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY PROCEDURE) NOTE: CATH LAB ONLY	46
93503	INSERTION AND PLACEMENT OF FLOW DIRECTED CATHETER (EG, SWAN-GANZ) FOR MONITORING PURPOSES	0 See Procedural Assistance

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

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<b>CPT</b>	<b>Description</b>	<b>RVU <sup>1</sup></b>
94002	VENTILATION ASSIST AND MANAGEMENT, INITIATION OF PRESSURE OR VOLUME PRESET VENTILATORS FOR ASSISTED OR CONTROLLED BREATHING; HOSPITAL INPATIENT/OBSERVATION, INITIAL DAY [This service includes all services provided to ventilator patients including but not limited to mobility, transport, spontaneous mechanics, patient/system checks, etc.]	250/day-adult, 300/day-Neonates
94003	VENTILATION ASSIST AND MANAGEMENT, INITIATION OF PRESSURE OR VOLUME PRESET VENTILATORS FOR ASSISTED OR CONTROLLED BREATHING; HOSPITAL INPATIENT/OBSERVATION, EACH SUBSEQUENT DAY [This service includes all services provided to ventilator patients including but not limited to mobility, transport, spontaneous mechanics, patient/system checks, etc.]	250/day-adult, 300/day-Neonates
94004	VENTILATION ASSIST AND MANAGEMENT, INITIATION OF PRESSURE OR VOLUME PRESET VENTILATORS FOR ASSISTED OR CONTROLLED BREATHING; NURSING FACILITY, PER DAY	0
94005	HOME VENTILATOR MANAGEMENT CARE PLAN OVERSIGHT OF A PATIENT (PATIENT NOT PRESENT) IN HOME, DOMICILIARY OR REST HOME (EG, ASSISTED LIVING) REQUIRING REVIEW OF STATUS, REVIEW OF LABORATORIES AND OTHER STUDIES AND REVISION OF ORDERS AND RESPIRATORY CARE PLAN (AS APPROPRIATE), WITHIN A CALENDAR MONTH, 30 MINUTES OR MORE	0
94010	SPIROMETRY, INCLUDING GRAPHIC RECORD, TOTAL AND TIMED VITAL CAPACITY, EXPIRATORY FLOW RATE MEASUREMENT(S), WITH OR WITHOUT MAXIMAL VOLUNTARY VENTILATION	25
94011	MEASUREMENT OF SPIROMETRIC FORCED EXPIRATORY FLOWS IN AN INFANT OR CHILD THROUGH 2 YEARS OF AGE	30
94012	MEASUREMENT OF SPIROMETRIC FORCED EXPIRATORY FLOWS, BEFORE AND AFTER BRONCHODILATOR, IN AN INFANT OR CHILD THROUGH 2 YEARS OF AGE	38

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

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<b>CPT</b>	<b>Description</b>	<b>RVU <sup>1</sup></b>
94013	MEASUREMENT OF LUNG VOLUMES (IE, FUNCTIONAL RESIDUAL CAPACITY [FRC],FORCED VITAL CAPACITY [FVC], AND EXPIRATORY RESERVE VOLUME [ERV]) IN AN INFANT OR CHILD THROUGH 2 YEARS OF AGE	33
94014	PATIENT-INITIATED SPIROMETRIC RECORDING PER 30-DAY PERIOD OF TIME;INCLUDES REINFORCED EDUCATION, TRANSMISSION OF SPIROMETRIC TRACING,DATA CAPTURE, ANALYSIS OF TRANSMITTED DATA, PERIODIC RECALIBRATION AND REVIEW AND INTERPRETATION BY A PHYSICIAN OR OTHER QUALIFIED HEALTHCARE PROFESSIONAL	BY REPORT
94015	PATIENT-INITIATED SPIROMETRIC RECORDING PER 30-DAY PERIOD OF TIME;RECORDING (INCLUDES HOOK-UP, REINFORCED EDUCATION, DATA TRANSMISSION,DATA CAPTURE, TREND ANALYSIS, AND PERIODIC RECALIBRATION)	BY REPORT
94016	PATIENT-INITIATED SPIROMETRIC RECORDING PER 30-DAY PERIOD OF TIME;REVIEW AND INTERPRETATION ONLY BY A PHYSICIAN OR OTHER QUALIFIED HEALTH CARE PROFESSIONAL	0
94060	BRONCHODILATION RESPONSIVENESS, SPIROMETRY AS IN 94010, PRE- AND POST-BRONCHODILATOR ADMINISTRATION	37
94070	BRONCHOSPASM PROVOCATION EVALUATION, MULTIPLE SPIROMETRIC DETERMINATIONS AS IN 94010, WITH ADMINISTERED AGENTS (EG, ANTIGEN[S],COLD AIR, METHACHOLINE)	84
94150	VITAL CAPACITY, TOTAL (SEPARATE PROCEDURE)	18
94200	MAXIMUM BREATHING CAPACITY, MAXIMAL VOLUNTARY VENTILATION	12
94250	EXPIRED GAS COLLECTION, QUANTITATIVE, SINGLE PROCEDURE (SEPARATE PROCEDURE)	30
94375	RESPIRATORY FLOW VOLUME LOOP	0
94400	BREATHING RESPONSE TO CO2 (CO2 RESPONSE CURVE)	30
94450	BREATHING RESPONSE TO HYPOXIA (HYPOXIA RESPONSE CURVE)	30

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

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<b>CPT</b>	<b>Description</b>	<b>RVU <sup>1</sup></b>
94452	HIGH ALTITUDE SIMULATION TEST (HAST), WITH INTERPRETATION AND REPORT BY A PHYSICIAN OR OTHER QUALIFIED HEALTH CARE PROFESSIONAL;	45
94453	HIGH ALTITUDE SIMULATION TEST (HAST), WITH INTERPRETATION AND REPORT BY A PHYSICIAN OR OTHER QUALIFIED HEALTH CARE PROFESSIONAL; WITH SUPPLEMENTAL OXYGEN TITRATION	45
94610	INTRAPULMONARY SURFACTANT ADMINISTRATION BY A PHYSICIAN OR OTHER QUALIFIED HEALTH CARE PROFESSIONAL THROUGH ENDOTRACHEAL TUBE	30
94617	EXERCISE TEST FOR BRONCHOSPASM, INCLUDING PRE- AND POST-SPIROMETRY, ELECTROCARDIOGRAPHIC RECORDING(S), AND PULSE OXIMETRY	71
94618	PULMONARY STRESS TESTING (EG, 6-MINUTE WALK TEST), INCLUDING MEASUREMENT OF HEART RATE, OXIMETRY, AND OXYGEN TITRATION, WHEN PERFORMED	30
94621	PULMONARY STRESS TESTING; COMPLEX (INCLUDING MEASUREMENTS OF CO <sub>2</sub> PRODUCTION, O <sub>2</sub> UPTAKE, AND ELECTROCARDIOGRAPHIC RECORDINGS)	90
94640	PRESSURIZED OR NONPRESSURIZED INHALATION TREATMENT FOR ACUTE AIRWAY OBSTRUCTION FOR THERAPEUTIC PURPOSES AND/OR FOR DIAGNOSTIC PURPOSES SUCH AS SPUTUM INDUCTION WITH AN AEROSOL GENERATOR, NEBULIZER, METERED DOSE INHALER OR INTERMITTENT POSITIVE PRESSURE BREATHING (IPPB) DEVICE	480 per inpatient admission 40 per outpatient admission
94642	AEROSOL INHALATION OF PENTAMIDINE FOR PNEUMOCYSTIS CARINII PNEUMONIA TREATMENT OR PROPHYLAXIS	60
94644	CONTINUOUS INHALATION TREATMENT WITH AEROSOL MEDICATION FOR ACUTE AIRWAY OBSTRUCTION; FIRST HOUR	34

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

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<b>CPT</b>	<b>Description</b>	<b>RVU <sup>1</sup></b>
94645	CONTINUOUS INHALATION TREATMENT WITH AEROSOL MEDICATION FOR ACUTE AIRWAY OBSTRUCTION; EACH ADDITIONAL HOUR (LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY PROCEDURE) MAX 4	28
94660	CONTINUOUS POSITIVE AIRWAY PRESSURE VENTILATION (CPAP), INITIATION AND MANAGEMENT	120/day
94662	CONTINUOUS NEGATIVE PRESSURE VENTILATION (CNP), INITIATION AND MANAGEMENT	120/day
94664	DEMONSTRATION AND/OR EVALUATION OF PATIENT UTILIZATION OF AN AEROSOL GENERATOR, NEBULIZER, METERED DOSE INHALER OR IPPB DEVICE	15/day
94667	MANIPULATION CHEST WALL, SUCH AS CUPPING, PERCUSSING, AND VIBRATION TO FACILITATE LUNG FUNCTION; INITIAL DEMONSTRATION AND/OR EVALUATION	30
94668	MANIPULATION CHEST WALL, SUCH AS CUPPING, PERCUSSING, AND VIBRATION TO FACILITATE LUNG FUNCTION; SUBSEQUENT [This includes services provided by the Inexsufflator – Cough Assist and other products providing the same function.]	25
94669	MECHANICAL CHEST WALL OSCILLATION TO FACILITATE LUNG FUNCTION, PER SESSION	30
94680	OXYGEN UPTAKE, EXPIRED GAS ANALYSIS; REST AND EXERCISE, DIRECT, SIMPLE	75
94681	OXYGEN UPTAKE, EXPIRED GAS ANALYSIS; INCLUDING CO2 OUTPUT, PERCENTAGE OXYGEN EXTRACTED	90
94690	OXYGEN UPTAKE, EXPIRED GAS ANALYSIS; REST, INDIRECT (SEPARATE PROCEDURE)	60
94726	PLETHYSMOGRAPHY FOR DETERMINATION OF LUNG VOLUMES AND, WHEN PERFORMED, AIRWAY RESISTANCE	19
94727	GAS DILUTION OR WASHOUT FOR DETERMINATION OF LUNG VOLUMES AND, WHEN PERFORMED, DISTRIBUTION OF VENTILATION AND CLOSING VOLUMES	19
94728	AIRWAY RESISTANCE BY IMPULSE OSCILLOMETRY	15

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

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**RESPIRATORY THERAPY & PULMONARY FUNCTION TESTING**

<b>CPT</b>	<b>Description</b>	<b>RVU <sup>1</sup></b>
94729	DIFFUSING CAPACITY (EG, CARBON MONOXIDE, MEMBRANE) (LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY PROCEDURE)	20
94750	PULMONARY COMPLIANCE STUDY (EG, PLETHYSMOGRAPHY, VOLUME AND PRESSURE MEASUREMENTS)	30
94760	NONINVASIVE EAR OR PULSE OXIMETRY FOR OXYGEN SATURATION; SINGLE DETERMINATION	8
94761	NONINVASIVE EAR OR PULSE OXIMETRY FOR OXYGEN SATURATION; MULTIPLE DETERMINATIONS (EG, DURING EXERCISE)	30
94762	NONINVASIVE EAR OR PULSE OXIMETRY FOR OXYGEN SATURATION; BY CONTINUOUS OVERNIGHT MONITORING (SEPARATE PROCEDURE)	30
94770	CARBON DIOXIDE, EXPIRED GAS DETERMINATION BY INFRARED ANALYZER	40/day
94772	CIRCADIAN RESPIRATORY PATTERN RECORDING (PEDIATRIC PNEUMOGRAM), 12-24HOUR CONTINUOUS RECORDING, INFANT	34
94774	PEDIATRIC HOME APNEA MONITORING EVENT RECORDING INCLUDING RESPIRATORY RATE, PATTERN AND HEART RATE PER 30-DAY PERIOD OF TIME; INCLUDES MONITOR ATTACHMENT, DOWNLOAD OF DATA, REVIEW, INTERPRETATION, AND PREPARATION OF A REPORT BY A PHYSICIAN OR OTHER QUALIFIED HEALTH CARE PROFESSIONAL	0
94775	PEDIATRIC HOME APNEA MONITORING EVENT RECORDING INCLUDING RESPIRATORY RATE, PATTERN AND HEART RATE PER 30-DAY PERIOD OF TIME; MONITOR ATTACHMENT ONLY (INCLUDES HOOK-UP, INITIATION OF RECORDING AND DISCONNECTION)	By Report
94776	PEDIATRIC HOME APNEA MONITORING EVENT RECORDING INCLUDING RESPIRATORY RATE, PATTERN AND HEART RATE PER 30-DAY PERIOD OF TIME; MONITORING, DOWNLOAD OF INFORMATION, RECEIPT OF TRANSMISSION(S) AND ANALYSES BY COMPUTER ONLY	0

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services



**APPENDIX D**  
**STANDARD UNIT OF MEASURE REFERENCES**  
**RESPIRATORY THERAPY & PULMONARY FUNCTION TESTING**

<b>CPT</b>	<b>Description</b>	<b>RVU <sup>1</sup></b>
94777	PEDIATRIC HOME APNEA MONITORING EVENT RECORDING INCLUDING RESPIRATORY RATE, PATTERN AND HEART RATE PER 30-DAY PERIOD OF TIME; REVIEW, INTERPRETATION AND PREPARATION OF REPORT ONLY BY A PHYSICIAN OR OTHER QUALIFIED HEALTH CARE PROFESSIONAL	0
94780	CAR SEAT/BED TESTING FOR AIRWAY INTEGRITY, NEONATE, WITH CONTINUAL NURSING OBSERVATION AND CONTINUOUS RECORDING OF PULSE OXIMETRY, HEART RATE AND RESPIRATORY RATE, WITH INTERPRETATION AND REPORT; 60 MINUTES	60
94781	CAR SEAT/BED TESTING FOR AIRWAY INTEGRITY, NEONATE, WITH CONTINUAL NURSING OBSERVATION AND CONTINUOUS RECORDING OF PULSE OXIMETRY, HEART RATE AND RESPIRATORY RATE, WITH INTERPRETATION AND REPORT; EACH ADDITIONAL FULL 30 MINUTES (LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY PROCEDURE)	30
94799	<b>ALTERNATIVE GAS THERAPY</b> The administration of gases or mixtures of gases other than the traditional administration of oxygen or medical air. Administration requires procuring special equipment, special expertise, and additional time in providing this gas and systems to patients. Examples of these gases are Helium, Helium oxygen mixtures, Carbon dioxide and mixtures, and Nitrogen gas mixtures excluding Nitric Oxide.	120/day
94799	<b>BEDSIDE PULMONARY MECHANICS</b> Used for spontaneously breathing, non-vented patients, as a diagnostic measurement of respiratory muscle strength, volumes, and capacities. Includes, not limited to negative inspiratory force, tidal volume, and minute volumes. May have more than one session per day; each session may include multiple different measurements.	15
94799	<b>CONTINUOUS NEBULIZATION-NON-BRONCHODILATOR</b> Used for continuous nebulization of non-bronchodilator medications, includes pulmonary vasodilator medications, antibiotics, or any non-bronchodilator nebulized medication administered.	250/day

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

**APPENDIX D**  
**STANDARD UNIT OF MEASURE REFERENCES**  
**RESPIRATORY THERAPY & PULMONARY FUNCTION TESTING**

<b>CPT</b>	<b>Description</b>	<b>RVU <sup>1</sup></b>
94799	<p><b>CONTINUOUS AEROSOL MIST W/ OR W/OUT OXYGEN</b>  The initial application of equipment to supply and maintain a continuous aerosol mist, with or without increased oxygen concentration (FIO<sub>2</sub>), to a patient, using a face mask, tracheostomy mask, T-piece, hood, or other device. Includes the periodic evaluation of the system supplying and maintaining a continuous aerosol mist with or without increased oxygen (FIO<sub>2</sub>) to a patient. The aerosol may be heated or cool. Daily oxygen is bundled into this service.</p>	30/day
94799	<p><b>GENERATION OF NON-EMERGENT NIV PATIENT COMPLIANCE STUDY</b>  This activity describes the evaluation, application, and monitoring of a patient, using a non-invasive portable ventilator, as a means in determining oxygenation/ventilation requirements during resting, ambulation, and walking/exercise to quantify the required ventilation needs with daily life activities.</p>	15
94799	<p><b>HIGH FLOW OXYGEN THERAPY</b>  Heated, humidified high flow nasal cannula (HFNC, aka: HFO, HFT) that can deliver up to 100% heated and humidified oxygen at a flow rate that meets or exceeds patient demand</p>	120/day
94799	<p><b>INHALED NITRIC OXIDE</b>  Therapeutic gas administration for the treatment of Pulmonary Hypertension and other related conditions in patients who have this condition or related disease processes primarily in newborns and adults who exhibit signs of Pulmonary Hypertension. May also be used to treat reperfusion injury as in patients who have received heart and/or lung transplants</p>	250/day
94799	<p><b>COMPREHENSIVE PATIENT ASSESSMENT</b>  The process of gathering and evaluating data from a patient's complete medical record, consultations, physiological monitors and bedside observations (that does not lead to the immediate administration of a treatment). This must be specifically ordered and may only be charged once per day.</p>	20/day
94799	<p><b>MANUAL VENTILATION</b>  Intermittent manual compression of a gas-filled reservoir bag to force gases into a patient's lungs to maintain and support oxygenation and carbon dioxide elimination during apnea or hypoventilation. Can't be reported with ventilator and rapid response.</p>	15/qtr hr
94799	<p><b>MINI BRONCHO ALVEOLAR LAVAGE (BAL)</b>  This activity describes the collection of a non-bronchoscopic bronchoalveolar lavage to obtain fluid specimen for the diagnosis of ventilator associated pneumonia.</p>	30

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

**APPENDIX D**  
**STANDARD UNIT OF MEASURE REFERENCES**  
**RESPIRATORY THERAPY & PULMONARY FUNCTION TESTING**

<b>CPT</b>	<b>Description</b>	<b>RVU <sup>1</sup></b>
94799	<b>NASOPHARNGEAL TUBE CARE</b> A curved flexible endotracheal tube to be slotted down one nostril to open a channel between the nostril and nasopharynx, to sit behind the tongue, that can be used in an emergency (eg, unconscious patient), or for long-term purposes to create a patient airway.	<del>10</del> -0
94799	<b>OXYGEN THERAPY</b> The initial application and periodic monitoring of equipment supplying and maintaining continuous increased oxygen concentration (FIO <sub>2</sub> ) to a patient using a cannula, simple oxygen mask, non-rebreather mask or enturi-type mask. This excludes high flow oxygen therapy and cannot be reported with Continuous Aerosol therapy.	20/day
94799	<b>RAPID RESPONSE</b> Used when respiratory therapy is part of a multidisciplinary team of clinicians who bring critical care expertise and interventions directly to patients with early signs of deterioration. Use ONCE per rapid response event. <b>DO NOT USE</b> in combination with Cardiopulmonary Resuscitation. Regardless of number of therapists present	30
94799	<b>TRACH TUBE CARE</b> The routine care of a tracheostomy tube and tracheostomy site. Not reportable for ventilator patients.	20
94799	<b>TRANSCUTANEOUS MONITORING</b> Transcutaneous (existing, applied, or measured across the depth of the skin) oxygen/carbon dioxide monitoring. A method of measuring the oxygen/carbon dioxide in the blood by attaching electrodes to the skin which contain heating coils to raise the skin temperature and increase blood flow at the surface	40/day
94799	<b>Bedside Sleep Apnea Screening</b> The application of an Impedance Monitoring system to assess a patient's ventilatory pattern with periodic evaluation of patient	30
<del>94799</del>	<del>Nasopharyngeal airway</del>	<del>0</del>
94799	<b>UNLISTED PULMONARY SERVICE OR PROCEDURE</b>	<b>BY REPORT</b>
94799	<b>Bedside Procedure Assist-</b> Used for assistance during separate complex bedside procedures performed by authorized prescribers (physicians, PAs, NPs). Examples include, not limited to, bedside laryngoscopy/bronchoscopy/ endoscopy/ lung biopsy, chest tube insertion, bedside percutaneous trach, A-line insertion, peripherally inserted central catheter (PICC), thoracentesis, cricothyrotomy, central line insertion, hemodynamic monitoring/measurements; or other invasive diagnostic or therapeutic, or emergency procedure.	30
95012	<b>NITRIC OXIDE EXPIRED GAS DETERMINATION</b>	15

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

**APPENDIX D  
STANDARD UNIT OF MEASURE REFERENCES  
RESPIRATORY THERAPY & PULMONARY FUNCTION TESTING**

<b>CPT</b>	<b>Description</b>	<b>RVU <sup>1</sup></b>
99406	SMOKING AND TOBACCO USE CESSATION COUNSELING VISIT; INTERMEDIATE, GREATER THAN 3 MINUTES UP TO 10 MINUTES	10
99407	SMOKING AND TOBACCO USE CESSATION COUNSELING VISIT; INTENSIVE, GREATER THAN 10 MINUTES	20
99464	ATTENDANCE AT DELIVERY (WHEN REQUESTED BY THE DELIVERING PHYSICIAN OR OTHER QUALIFIED HEALTH CARE PROFESSIONAL) AND INITIAL STABILIZATION OF NEWBORN	60
G0237	THERAPEUTIC PROCEDURES TO INCREASE STRENGTH OR ENDURANCE OF RESPIRATORY MUSCLES, FACE TO FACE, ONE ON ONE, EACH 15 MINUTES (INCLUDES MONITORING)	15
G0238	THERAPEUTIC PROCEDURES TO IMPROVE RESPIRATORY FUNCTION, OTHER THAN DESCRIBED BY G0237, ONE ON ONE, FACE TO FACE, PER 15 MINUTES (INCLUDES MONITORING)	15
G0239	THERAPEUTIC PROCEDURES TO IMPROVE RESPIRATORY FUNCTION OR INCREASE STRENGTH OR ENDURANCE OF RESPIRATORY MUSCLES, TWO OR MORE INDIVIDUALS (INCLUDES MONITORING)	15
G0424	PULMONARY REHABILITATION, INCLUDING EXERCISE (INCLUDES MONITORING), ONE HOUR, PER SESSION, UP TO TWO SESSIONS PER DAY	18

<sup>1</sup> For service descriptions and RVU explanations refer to the Appended D Preface for RES/PUL services

**Nurse Support Program II**  
**Competitive Institutional Grants Program**  
**Review Panel Recommendations for FY 2019**

Health Services Cost Review Commission

4160 Patterson Avenue, Baltimore, Maryland 21215

(410) 764-2605

FAX: (410) 358-6217

Final Recommendation

June 13, 2018

This is a final recommendation for Commission consideration at the June 13, 2018 Public Commission Meeting.

## **INTRODUCTION**

This report presents recommendations for the Nurse Support Program II (NSP II) Competitive Institutional Grant Review Panel for Fiscal Year (FY) 2019. The FY 2019 Recommendations align with both NSP II and national nursing initiatives. This report and recommendations are jointly submitted by the staff of the Maryland Higher Education Commission (MHEC) and the Maryland Health Services Cost Review Commission (HSCRC or Commission).

## **BACKGROUND**

The HSCRC has funded programs to address the cyclical nursing workforce shortages since 1985. In July 2001, the HSCRC implemented the hospital-based Nurse Support Program I (NSP I) to address the nursing shortage impacting Maryland hospitals. Since that time, the NSP I completed three program evaluation cycles at five year intervals. The most recent renewal was approved on July 12, 2017 to extend the funding until June 30, 2022.

The HSCRC implemented the NSP II program in May 2005 to respond to the faculty shortage and other limitations in nursing educational capacity underlying the nursing shortage. The Commission approved an increase of up to 0.1 percent of regulated gross hospital revenue to increase the number of nurses in the state by increasing the capacity of nursing programs through institutional and nursing faculty interventions. MHEC was selected by the HSCRC to administer the NSP II programs, as the coordinating board for all Maryland institutions of higher education. On March 7, 2012, the HSCRC approved modifications to NSP II to include increased doctoral education support for greater development of new and existing nursing faculty.

At the conclusion of the first ten years of funding on January 14, 2015, the HSCRC renewed funding for FY 2016 through June 30, 2020. In 2016, the Maryland General Assembly revised the NSP II statute to meet Maryland's changing health care delivery models to recognize all registered nurses (RNs) are needed to ensure a strong nursing workforce.

## **ADVANCING NURSE FACULTY**

There are three faculty-focused programs provided by NSP II. They include the Hal and Jo Cohen Graduate Nurse Faculty Scholarship (GNF), the New Nurse Faculty Fellowship (NNFF) and the Nurse Educator Doctoral Grants for Practice and Dissertation Research (NEDG).

### *Hal and Jo Cohen Graduate Nurse Faculty Scholarship (GNF)*

NSP II urges leaders of nursing programs and hospital education departments to enhance recruitment of current full time faculty, part-time adjunct faculty, clinical instructors, professional development specialist and hospital educators into the nursing graduate degree programs in the State. Utilizing the tuition support of the Hal and Jo Cohen Graduate Nurse Faculty Scholarship, nurses are provided funds for graduate education in return for faculty positions in Maryland nursing program.

### *New Nurse Faculty Fellowship (NNFF)*

The most recent evaluation of the NNFF program demonstrated an 87.8 percent retention rate for nurse faculty with three years of continuous employment. In alignment with the NSP II statute, results showed a high proportion of minorities (40%,  $n=28$ ) were represented in the NNFF group. The largest group (38%,  $n=26$ ) were older nurses who expected to work less than 10 years. The smallest NNFF group were younger (born after 1982). Strategies are needed to address the gap between entering a faculty career path at an earlier point and an aging faculty workforce (Daw, Mills & Ibarra, 2018).

### *Nurse Educator Doctoral Grants for Practice and Dissertation Research (NEDG)*

In 2017, an evaluation of the Nurse Educator Doctoral Grants for Practice and Dissertation Research (NEDG) was completed. To date, 13 universities and 10 community colleges in Maryland have accessed these funds to support existing faculty to complete doctoral degrees. Over 6 years, 98 nurse faculty were awarded over \$2.35 million. The nurse faculty retention rate is on average 88.8 percent over six years. (Table 1).

**Table 1. Nurse Educator Doctoral Grants Distribution and Retention FY 2013-FY 2018**

<b>Fiscal Year</b>	<b>NEDG Recipients</b>	<b>Funding</b>	<b># Left Cohort</b>	<b>% Retention Rate</b>
2013	16	\$330,000	3	81%
2014	10	\$270,000	3	70%
2015	25	\$655,000	5	80%
2016	15	\$350,000	0	100%
2017	19	\$440,000	0	100%
2018	13	\$305,000	0	100%
<b>Total</b>	<b>98</b>	<b>\$2,350,000</b>	<b>11</b>	<b>88.78%</b>

*Source: Maryland Higher Education Commission, Nurse Educator Doctoral Grants for Practice and Dissertation Research (NEDG), program review completed December 8, 2017.*

### *Nurse Certifications*

One indicator of nursing education excellence is certification. In 2018, two National League for Nursing (NLN) Certified Nurse Educator (CNE) Workshops were sponsored by NSP II. There were approximately 120 nurse faculty attendees seeking to prepare for the examination and complete the credential of Certified Nurse Educator. In a 2017 review of data submitted with proposals and annual reports, approximately 12 percent of faculty in Maryland colleges and universities held the CNE credential. By 2020, the goal across the State's nursing programs is to double the number of full-time faculty with this specialty certification for nurse educators. It is a demonstration of excellence in education and faculty commitment to the highest standards in teaching. NSP II supports faculty through a variety of mechanisms to advance their expertise through professional development and advanced degree completion.

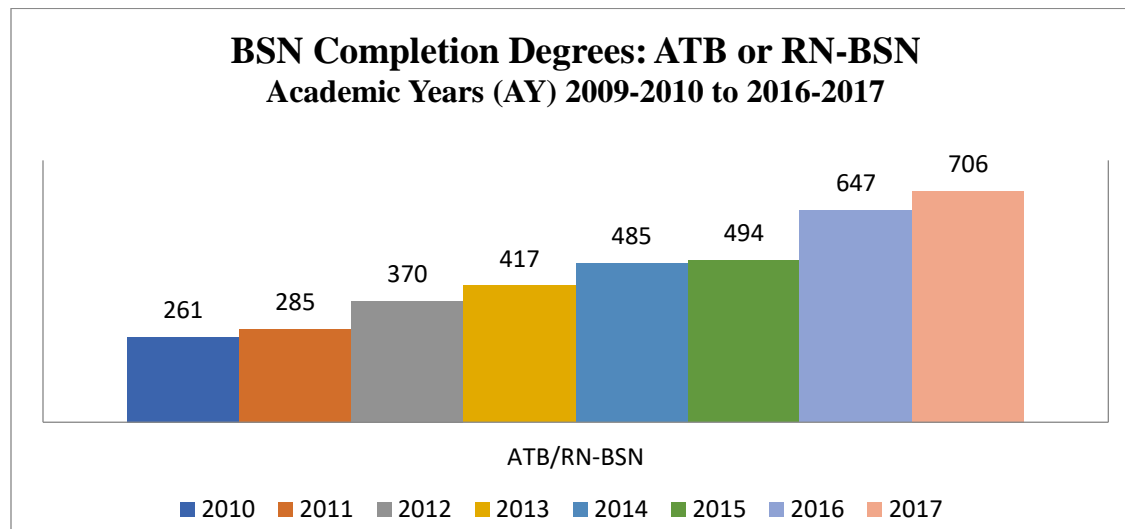
## ACADEMIC PROGRESSION IN NURSING

One of the major recommendations from the Institute of Medicine’s *Future of Nursing Report (2010)* was to increase the percentage of RNs with BSN degrees to 80 percent by 2020. The partnerships between community colleges and universities have grown to allow students the opportunity for dual enrollment to complete the associate and bachelor’s in nursing in as little as three years. This minimizes educational costs and reduces the time needed to complete the BSN.

The *Maryland Nursing Articulation Education Agreement (1985, 1998, 2017)* for seamless academic progression for Licensed Practical Nursing to Associate Degree Nursing to BSNs was evaluated, revised and submitted to MHEC by the Maryland Council of Deans and Directors of Nursing Programs (MCDDNP). Dr. James D. Fielder, Secretary of MHEC responded with a letter of commendation “for this clear and outstanding agreement” and thanked the council and entire nursing education community “for this forward thinking and impactful step for nursing articulation on a statewide basis for Maryland nursing education.” This update of the articulation agreement was a priority to move seamless progression efforts forward. It is the result nursing education leaders collaborating over the last two years to reach unanimous agreement across all nursing programs. The current agreement provides guidance to Maryland nursing programs to better align with the latest academic progression in nursing (APIN) initiatives. For more information, see NSP links of interest at [www.nursesupport.org](http://www.nursesupport.org).

The options for Associate to Bachelor’s (ATB) degree completion through dual enrollment or sequential RN to BSN programs have expanded at community colleges and universities. The data MHEC collected demonstrates a steady increase in BSN completions. (Table 2)

**Table 2. Associate to Bachelor’s or RN to Bachelor’s Completion Degrees 2010-2017**



Source: Maryland Higher Education Commission and Maryland Deans/Directors of Nursing



## PRE-LICENSURE NURSE GRADUATES

Overall, the number of new registered nurse graduates have held fairly steady, considering the changes in transition to practice and the educational environment of today's nursing students. These graduates begin their nursing career by completing the Associate of Science in Nursing Degree (ADN), Bachelor of Science in Nursing Degree (BSN) or Masters of Science in Nursing (MSN) entry degree programs. Nursing programs are responding to student and health care employer demands; making programmatic changes across the state to meet the needs of the hospitals, health care systems and the nursing profession.

Graduates prepared for the initial licensure through the National Council Licensure Examination for Registered Nurses (NCLEX-RN) are educated in three different types of programs. As noted in Table 3, there are more students already with an Associate Degree entering nursing programs for initial licensure. Second degree students are highly motivated with a wealth of life experiences. The most recent Maryland Board of Nursing first time nursing licensure examination results confirm the highest pass rates were posted for direct entry MSN programs at 92 percent compared to all Maryland programs at 85.6 percent (MBON, 2017).

**Table 3. Pre-Licensure Nursing Degree Trends (excluding RN-BSN graduates)**

<b>Degree</b>	<b>AY 2010</b>	<b>AY 2017</b>
Associate Degree in Nursing	1,443	1,458
Bachelor of Science in Nursing	964	960
Master of Science Entry	84	197
<b>Total</b>	<b>2,491</b>	<b>2,615</b>

Graduates of direct entry MSN nursing programs enter practice as novice nurses equipped with graduate level education in quality and safety, the application of research to practice, global health, health systems management, ethics and health policy. This type of program allows graduates to advance more rapidly toward positions as expert clinicians, leaders and managers in hospital health systems as they progress in their career. The pipeline for doctoral completions addresses the national and state shortage of nurses prepared to serve as nursing faculty members.

The MHEC data for BSN graduates includes baccalaureate completion (RN-BSN) graduates. For example, of the 1,666 BSN nursing graduates in Academic Year (AY) 2017, 706 were already working as registered nurses and continuing their education to complete the bachelor's degree as part of a hospital employment agreement or personal professional development. To determine the true number of graduates of pre-licensure programs eligible to sit for the NCLEX-RN licensure examination, ATB and RN-BSN completion degrees verified with each program and manual removed from the data displayed in Table 3.

Although the NSP II provides resources to Maryland's deans and directors of nursing programs to recruit and retain faculty through scholarships for graduate degrees, new nurse faculty

fellowships and doctoral grant support, Maryland nursing programs will need to increase enrollments, graduate additional RNs, and respond to market forces to meet the continuing demands of the nursing workforce. Lack of qualified nursing faculty and clinical space remain as barriers to increasing enrollments across undergraduate and graduate programs. Strategies to address these barriers include hiring more part-time faculty, increasing use of simulation and recruitment of Maryland nurses in graduate programs to education careers.

## ADVANCING HIGHER EDUCATION

Nursing education is dynamic and changing rapidly to respond to the health care demands of the 21st century. The undergraduate preparation is moving the needle steadily to the goal of 80 percent BSN prepared registered nurses, while a growing cadre of Master’s entry nurse graduates are joining the ranks of newly registered nurses. Ensuring the opportunity for academic progression and life-long learning are two of the NSP II goals. All four Doctor of Nursing Practice (DNP) degree programs in the state have moved all advanced practice degrees to the doctoral level in alignment with other professional practice degrees across health care disciplines. The profession’s national and state goals are mirrored in the NSP II goal: to double the number of doctoral prepared nurses and nurse faculty. Both the PhD research degree and DNP practice doctorate are needed; they are interrelated and together they collaborate to expand the body of knowledge through research for rapid translation of science into evidence-based practice for improved patient outcomes. Data from MHEC shows a 33 percent increase in the number of PhD and DNP nurse graduates between AY 2009/2010 and 2016/2017 (Table 4).

**Table 4: Number of Doctor of Philosophy in Nursing (PhD) and Doctor of Nursing Practice (DNP) Graduates, AY 2009/2010-2016/2017**

Degree	AY 2009/2010	AY 2010/2011	AY 2011/2012	AY 2012/2013	AY 2013/2014	AY 2014/2015	AY 2015/2016	AY 2016/2017
PhD	11	12	14	22	8	14	10	17
DNP	53	44	36	34	27	57	45	68
<b>Total</b>	64	56	50	56	35	71	55	85

*Source: Maryland Higher Education Commission*

## DISSEMINATION OF NSP II RESULTS

The NSP II project directors are required to report on their grant-supported work annually through publications in peer-reviewed journals, presentations at conferences or in formal venues with their colleagues in Maryland. Presentations may be through organizations such as the Maryland Action Coalition, the Maryland Organization for Nurse Leaders, the Maryland Nurse’s Association, national professional nursing conferences or NSP II project director meetings. In April, 2018, NSP II project directors representing Salisbury University, Harford Community College, Towson University and Morgan State University made podium and poster presentations at the *Nursing Education Research Conference* in Washington, D.C., sponsored by Sigma Theta Tau International Honor Society of Nursing and the National League for Nursing.

## FY 2019 COMPETITIVE GRANT PROCESS

In response to the FY 2019 request for applications (RFA), the NSP II Competitive Institutional Grant Review Panel received a total of 29 requests for funding, including 25 new competitive grants proposals, 3 resource grant requests, and 1 continuation grant recommendation. The nine-member review panel, comprised of former NSP II grant project directors, retired nurse faculty, hospital educators, licensure and policy leaders, MHEC and HSCRC staff, reviewed the proposals. All new proposals received by the deadline were scored by the panel according to the rubric outlined in the FY 2019 RFA. The review panel convened and developed consensus around the most highly recommended proposals. As a result, the review panel recommends funding for 16 of the 29 total proposals. There were many deserving proposals, and the Panel encouraged those not funded this year to resubmit next year.

The recommended proposals include one-year planning grants, three-year full implementation grants, continuation grants, and nursing program resource grants for a total just under \$9.6 million. The proposals that received the highest ratings for funding focused on nursing graduate outcomes with partnerships across community colleges, universities and hospital health systems. Table 5 lists the recommended proposals for FY 2019 funding.

**Table 5. Final Recommendations for Funding for FY 2019**

Grant #	Institution	Grant Title	Proposed Funding
19-106	Harford Community College	Harford Community College/Towson University Collaborative	\$850,631
19-107	Hood College	Increasing Capacity for Pre-licensure Graduates	\$689,235
19-109	Johns Hopkins University	Preceptor Education for Vulnerable Populations	\$569,344
19-113	Montgomery College	Montgomery College Resources for Educators	\$45,850
19-114	Morgan State University	Nursing Dual Enrollment: Pipeline for HS Students	\$139,686
19-116	Notre Dame of Maryland University	Accelerated Second Degree BSN	\$965,927
19-117	Notre Dame of Maryland University	PARSystem Testing Resources	\$34,010
19-118	Stevenson University	Increasing Numbers of BS prepared Nurses	\$976,452
19-119	Towson University	Increasing the Supply of Qualified Nurse Faculty	\$902,000
19-120	Towson University	Online Option for Degree Completion	\$1,050,062
19-121	Towson University	Graduate Program Planning and Revision	\$146,570
19-123	University of Maryland	PTECH at Dunbar HS for Health Professions with Baltimore City Community College	\$629,919

Grant #	Institution	Grant Title	Proposed Funding
19-124	University of Maryland	Establishing the Maryland Nursing Workforce Center	\$265,467
19-125	University of Maryland	Advancing Implementation Science Education (ADVISE) Project	\$698,995
19-128	University of Maryland	Continuation of Preceptor Modules for APRNs	\$359,21
19-129	Montgomery College	MCSRC Simulation Resources	\$1,266,050
<b>Total</b>			<b>\$9,589,409</b>

## RECOMMENDATIONS

HSCRC and MHEC staff recommend the 16 proposals presented above in Table 5 for the FY 2019 NSP II Competitive Institutional Grants Program. The recommended proposals represent the NSP II’s commitment to increasing nursing degree completions and academic practice partnerships across Maryland. The most highly recommended proposals include:

- Supporting additional nursing undergraduate degree completions at Hood College, Stevenson University and Towson University with the following hospital partners:
  - Frederick Memorial,
  - Lifebridge Health Centers (Northwest Hospital, Levindale and Sinai Hospital Center),
  - Medstar Union Memorial and Good Samaritan,
  - Howard County Hospital and Johns Hopkins Hospital,
  - UMMS St. Joseph’s Medical Center and University of Maryland Medical Center
- Implementing an accelerated second-degree BSN program at Notre Dame of Maryland University;
- Awarding a planning grant for dual enrollment with Morgan State University to work with the Vivien T. Thomas Medical Arts Academy, a public high school in Baltimore;
- Establishing a Maryland Nursing Workforce Center for improved data infrastructure;
- Implementing a new preceptor education program for vulnerable populations at Johns Hopkins University;
- Developing an academic progression partnership with increased pre-licensure graduates in dual enrollment ATB programs at Harford Community College and Towson University;
- Continuing the Advanced Practice Nurse Preceptor online modules with an in-person simulation component developed through an earlier grant at the University of Maryland with participants from University of Maryland Medical Center, Johns Hopkins Hospital, Upper Chesapeake Health, MedStar Franklin Square and St. Agnes Hospital, scheduled for expansion of access to all APRN programs across the State; and
- Strengthening all Maryland nursing programs through the MCSRC's benchmarking assessments with targeted awards to ensure all schools have adequate and equitable clinical simulation opportunities with additional resources for Washington Adventist University, Johns Hopkins University, Anne Arundel Community College, Carroll Community College,

Hood College, Salisbury University, Morgan State University, Towson University, Community College of Baltimore County at Catonsville and Essex.

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Nurse Support Program I and II, [www.nursesupport.org](http://www.nursesupport.org)

# **Draft Recommendations for the Uncompensated Care Policy for Rate Year 2019**

May 9, 2018

Health Services Cost Review Commission  
4160 Patterson Avenue  
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## INTRODUCTION

Uncompensated care (UCC) refers to care provided for which compensation is not received. This may include a combination of bad debt and charity care.<sup>1</sup> Since it first began setting rates, the Maryland Health Services Cost Review Commission (HSCRC or Commission) has recognized the cost of UCC within Maryland's unique hospital rate-setting system. As a result, patients who cannot pay for care are still able to access hospital services, and hospitals are credited for a reasonable level of UCC provided to those patients. Under the current HSCRC policy, UCC is funded by a statewide pooling system in which regulated Maryland hospitals draw funds from the pool if they experience a greater-than-average level of UCC and pay into the pool if they experience a less-than-average level of UCC. This ensures that the cost of UCC is shared equally across all of the hospitals within the system.

The HSCRC determines the total amount of UCC that will be placed in hospital rates for each year and the amount of funding that will be made available for the UCC pool. Additionally, the Commission approves the methodology for distributing these funds among hospitals. The purpose of this report is to provide background information on the UCC policy and to make recommendations for the UCC pool and methodology for rate year (RY) 2019. The UCC amount to be built into rates for Maryland hospitals is 4.16 percent for RY 2019.

## BACKGROUND

### Overview of Maryland's Uncompensated Care Policy

#### *Methodology*

The HSCRC prospectively calculates the rate of UCC at each regulated Maryland hospital by combining historical UCC rates with predictions from a regression model,<sup>2</sup> the latter of which is incorporated because HSCRC policy aims to continue incentivizing hospitals to reduce bad debts. Using these calculated UCC rates, the HSCRC builds a statewide pool into the rate structure for Maryland hospitals, and hospitals either pay into or withdraw from the pool, depending on each hospital's prospectively calculated UCC rate relative to the most recent statewide average.

The UCC Methodology for RY 2019 uses RY 2017 actual UCC rates from hospitals' audited financial statements and a logistic regression model that predicts a patient's chances of having UCC based on payer type, location of service (inpatient, ED, and other outpatient) and the Area Deprivation Index. The results of the logistic regression model are then multiplied by the total charges of the hospital as well as the percentage of services that are delivered to commercial patients in the emergency room, which is the greatest indication of likely uncompensated care. This calculation creates a predicted UCC rate for each hospital. A 50/50 blend of audited financial statements and the predicted UCC rate for each hospital is used to determine hospital-specific adjustments. The RY 2019 UCC amount is set at 4.16 percent.

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<sup>1</sup> COMAR 10.37.10.01K

<sup>2</sup> A regression is a general statistical technique for determining how much of a change in an output amount is likely to result from changes in measures of multiple inputs.



## **ASSESSMENT**

### **Determining the Appropriate Level of Uncompensated Care Funding in Rates**

The HSCRC must determine the percentage of UCC to incorporate in hospitals' rates in order to fund the UCC pool. Based on the most recent audited reports, the statewide UCC rate was 4.16 percent in RY 2017, which represents a 42.5% decrease in uncompensated care since the start of GBR (RY 2013 UCC – 7.23%).

The rate of Marylanders without health insurance decreased from 10.2 percent in 2013 to 7.9 percent in 2014, according to the statistics published by the U.S. Census Bureau on September 16, 2015.<sup>3</sup> Maryland's uninsured rate continued to decrease to 6 percent as of March 2015, according to a report issued by the Census Bureau and Kaiser Family Foundation.<sup>4</sup> This downward trajectory in uninsured rates is reflected in the reductions in hospital uncompensated care. Given the continued reduction in UCC, HSCRC staff recommends funding a UCC rate of 4.16 percent, which is slightly less than the RY2018 UCC rate of 4.51%.

## **RECOMMENDATIONS**

Based on the preceding analysis, HSCRC staff recommends the following for RY 2019:

1. Reduce statewide UCC provision in rates from 4.51 % to 4.16 % effective July 1, 2018.
2. Continue to use the regression modeling approach approved by the Commission at the June 2016 meeting.
3. Continue to do 50/50 blend of FY17 audited UCC and predicted UCC.

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<sup>3</sup> <http://www.marylandhbe.com/fewer-marylanders-without-health-coverage-census-bureau-reports/>

## APPENDIX I. HOSPITAL UNCOMPENSATED CARE PROVISION FOR RY 2019

HOSPID	Hospital Name	RY 2019 Projected Regulated Revenue	RY 2019 UCC Based on RY 2019 Projected Regulated Revenue	RY 2017 Percent UCC from the RE Schedule	Percent Predicted UCC (Adjusted)	50/50 Blend Percent	Percent UCC
210001	Meritus Medical Center	314,827,422	13,487,120	4.28%	4.73%	4.51%	4.60%
210002	Univ. of Maryland Medical Center	1,332,408,795	54,239,175	4.07%	2.90%	3.48%	3.56%
210003	Prince Georges Hospital	286,573,599	24,930,563	8.70%	7.82%	8.26%	8.44%
210004	Holy Cross	479,654,944	34,507,803	7.19%	6.81%	7.00%	7.15%
210005	Frederick Memorial Hospital	329,156,555	14,538,410	4.42%	4.58%	4.50%	4.59%
210006	Univ. of Maryland Harford Memorial Hospital	99,998,182	6,773,854	6.77%	4.08%	5.43%	5.54%
210008	Mercy Medical Center, Inc.	502,208,027	21,443,376	4.27%	3.53%	3.90%	3.98%
210009	Johns Hopkins	2,240,813,393	58,878,632	2.63%	2.68%	2.66%	2.71%
210010	Univ. of Maryland Shore Medical Center at Dorchester	48,094,357	2,464,379	5.12%	4.98%	5.05%	5.16%
210011	St. Agnes Hospital	416,466,586	16,673,168	4.00%	4.36%	4.18%	4.27%
210012	Sinai Hospital	736,861,799	24,229,357	3.29%	3.51%	3.40%	3.47%
210013	Bon Secours Hospital	102,000,000	2,514,493	2.47%	3.57%	3.02%	3.08%
210015	MedStar Franklin Square Hospital	492,402,641	17,442,807	3.54%	3.73%	3.64%	3.72%
210016*	Washington Adventist Hospital	258,319,310	16,701,589	6.47%	6.48%	6.47%	6.61%
210017	Garrett County Memorial Hospital	52,939,702	4,137,179	7.81%	5.38%	6.60%	6.74%
210018	MedStar Montgomery General Hospital	169,927,186	5,127,319	3.02%	3.52%	3.27%	3.34%
210019	Peninsula Regional Medical Center	419,622,018	17,497,864	4.17%	4.48%	4.32%	4.42%
210022	Suburban Hospital Association, Inc	298,564,642	8,811,872	2.95%	3.89%	3.42%	3.50%
210023	Anne Arundel General Hospital	575,908,246	16,982,546	2.95%	3.23%	3.09%	3.16%
210024	MedStar Union Memorial Hospital	414,710,552	12,905,658	3.11%	3.47%	3.29%	3.36%
210027	Western Maryland Hospital	316,661,093	15,341,700	4.84%	4.26%	4.55%	4.65%
210028	MedStar St. Marys Hospital	172,574,583	6,810,649	3.95%	3.87%	3.91%	3.99%
210029	Johns Hopkins Bayview Med. Center	621,515,865	25,528,388	4.11%	4.71%	4.41%	4.50%
210030	Univ. of Maryland Shore Medical Center at Chestertown	54,289,889	2,711,118	4.99%	3.54%	4.27%	4.36%
210032	Union Hospital of Cecil County	156,358,285	6,465,055	4.13%	4.44%	4.29%	4.38%

210033	Carroll County General Hospital	223,662,684	3,401,434	1.52%	3.28%	2.40%	2.45%
210034	MedStar Harbor Hospital Center	190,469,979	8,979,022	4.71%	4.28%	4.50%	4.59%
210035	Univ. of Maryland Charles Regional Medical Center	143,723,289	7,606,141	5.29%	4.67%	4.98%	5.09%
210037	Univ. of Maryland Shore Medical Center at Easton	195,481,707	6,154,856	3.15%	3.29%	3.22%	3.29%
210038	Univ. of Maryland Medical Center Midtown Campus	228,124,869	16,628,297	7.29%	3.92%	5.60%	5.72%
210039	Calvert Memorial Hospital	141,821,983	5,884,502	4.15%	3.59%	3.87%	3.95%
210040	Northwest Hospital Center, Inc.	248,058,564	11,929,061	4.81%	4.54%	4.67%	4.77%
210043	Univ. of Maryland Baltimore Washington Medical Center	398,733,080	25,346,441	6.36%	3.94%	5.15%	5.26%
210044	Greater Baltimore Medical Center	435,420,575	14,353,223	3.30%	3.29%	3.29%	3.36%
210045	McCready Foundation, Inc.	15,530,984	711,473	4.58%	6.25%	5.42%	5.53%
210048	Howard County General Hospital	291,104,867	8,402,599	2.89%	3.69%	3.29%	3.36%
210049	Univ. of Maryland Upper Chesepeake Medical Center	325,619,300	12,279,249	3.77%	3.14%	3.45%	3.53%
210051	Doctors Community Hospital	226,126,371	10,619,569	4.70%	4.72%	4.71%	4.81%
210055	Laurel Regional Hospital	98,343,286	10,313,930	10.49%	8.20%	9.35%	9.55%
210056	MedStar Good Samaritan Hospital	284,642,445	11,289,438	3.97%	3.97%	3.97%	4.06%
210057*	Shady Grove Adventist Hospital	376,694,222	12,990,236	3.45%	4.52%	3.98%	4.07%
210060*	Fort Washington Medical Center	47,023,363	4,025,441	8.56%	8.45%	8.50%	8.69%
210061	Atlantic General Hospital	102,841,659	5,769,252	5.61%	4.92%	5.27%	5.38%
210062	MedStar Southern Maryland Hospital	269,769,528	11,754,873	4.36%	4.27%	4.31%	4.41%
210063	Univ. of Maryland St. Josephs Medical Center	388,253,807	15,995,075	4.12%	3.74%	3.93%	4.01%
210065	Holy Cross German Town	100,218,434	9,178,902	9.16%	8.37%	8.76%	8.95%
Total		15,624,522,668	644,757,088	4.13%	3.95%	4.04%	4.13%

Note: Levindale, UMROI, and UM-Shock Trauma are not included in this analysis.

## APPENDIX II. WRITE-OFF DATA SUMMARY STATISTICS

The table below presents the actual UCC reduction rate by hospital between FY 2016 and FY 2017 – it does not reflect predicted UCC rates. Reduction rates vary by hospital.

**Appendix II. Table 1. UCC Reductions by Hospital, FY 2016-2017**

HOSPID	Hospital Name	RY 2016 % UCC	RY 2017 % UCC	Variance over/under
210001	Meritus Medical Center	4.71%	4.28%	-0.43%
210002	UM Medical Center	4.03%	4.07%	0.04%
210003	Prince Georges Hospital	9.47%	8.70%	-0.77%
210004	Holy Cross	8.99%	7.19%	-1.79%
210005	Frederick Memorial Hospital	4.08%	4.42%	0.34%
210006	UM Harford Memorial Hospital	6.17%	6.77%	0.60%
210008	Mercy Medical Center, Inc.	5.31%	4.27%	-1.04%
210009	Johns Hopkins	2.09%	2.63%	0.53%
210010	UM Shore Medical Center at Dorchester	4.86%	5.12%	0.26%
210011	St. Agnes Hospital	5.76%	4.00%	-1.76%
210012	Sinai Hospital	3.90%	3.29%	-0.61%
210013	Bon Secours Hospital	3.72%	2.47%	-1.25%
210015	MedStar Franklin Square Hospital	4.43%	3.54%	-0.89%
210016*	Washington Adventist Hospital	7.42%	6.47%	-0.95%
210017	Garrett County Memorial Hospital	6.90%	7.81%	0.91%
210018	MedStar Montgomery General Hospital	4.04%	3.02%	-1.02%
210019	Peninsula Regional Medical Center	4.12%	4.17%	0.05%
210022	Suburban Hospital Association, Inc	2.06%	2.95%	0.89%
210023	Anne Arundel General Hospital	2.54%	2.95%	0.41%
210024	MedStar Union Memorial Hospital	4.24%	3.11%	-1.13%
210027	Western Maryland Hospital	4.88%	4.84%	-0.04%
210028	MedStar St. Marys Hospital	5.22%	3.95%	-1.27%
210029	Johns Hopkins Bayview Med. Center	5.10%	4.11%	-1.00%
210030	UM Shore Medical Center at Chestertown	4.98%	4.99%	0.02%
210032	Union Hospital of Cecil County	4.80%	4.13%	-0.67%
210033	Carroll County General Hospital	2.88%	1.52%	-1.36%
210034	MedStar Harbor Hospital Center	5.76%	4.71%	-1.05%
210035	UM Charles Regional Medical Center	5.83%	5.29%	-0.54%
210037	UM Shore Medical Center at Easton	3.49%	3.15%	-0.34%
210038	UM Medical Center Midtown Campus	8.17%	7.29%	-0.88%
210039	Calvert Memorial Hospital	2.91%	4.15%	1.24%
210040	Northwest Hospital Center, Inc.	5.65%	4.81%	-0.84%
210043	UM BWMC	5.63%	6.36%	0.73%
210044	Greater Baltimore Medical Center	2.61%	3.30%	0.68%
210045	McCready Foundation, Inc.	2.86%	4.58%	1.72%
210048	Howard County General Hospital	3.29%	2.89%	-0.41%
210049	UM Upper Chesapeake Medical Center	3.60%	3.77%	0.18%
210051	Doctors Community Hospital	7.35%	4.70%	-2.65%
210055	Laurel Regional Hospital	11.60%	10.49%	-1.12%

210056	MedStar Good Samaritan Hospital	5.04%	3.97%	-1.07%
210057*	Shady Grove Adventist Hospital	4.18%	3.45%	-0.73%
210060*	Fort Washington Medical Center	9.49%	8.56%	-0.93%
210061	Atlantic General Hospital	5.57%	5.61%	0.04%
210062	MedStar Southern Maryland Hospital	5.95%	4.36%	-1.59%
210063	UM St. Josephs Medical Center	4.09%	4.12%	0.03%
210065	Holy Cross Germantown	9.97%	9.16%	-0.81%
Total		4.48%	4.12%	-0.32%

Note: Levindale, UMROI, and UM-Shock Trauma are not included in this analysis. If they were included, the statewide rate for RY 2016 would be 4.51% and for RY17 it would be 4.16%.

Source: HSCRC Financial Audited Data

The table below presents the UCC write off distribution by payer for services provided in RY 2017 based on the account-level information provided to the Commission. 35.31 percent of UCC Write Off has a primary payer of charity care/self-pay. Commercial payers and Medicaid (including out-of-state Medicaid) accounted for 30.51 and 11.10 percent of UCC, respectively.

**Appendix II. Table 2. UCC Write Off Distribution by Payer, RY 2017**

<b>Payer</b>	<b>Total Write Off</b>	<b>% of Total Write Off</b>
Charity/Self Pay	\$234,539,069	35.31%
Commercial	\$202,671,077	30.51%
Medicaid	\$73,738,627	11.10%
Medicare	\$110,604,587	16.65%
Other	\$42,634,620	6.42%
Grand Total	\$664,187,981	100.00%

**Staff Report:  
Maryland's Statewide Health Information Exchange,  
the Chesapeake Regional Information System for our  
Patients: FY 2019 Funding to Support HIE Operations  
and CRISP Reporting Services**

June 13, 2018

Health Services Cost Review Commission  
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## LIST OF ABBREVIATIONS

BRFA	Budget Reconciliation and Financing Act of 2015
CMS	Centers for Medicare & Medicaid Services
CRISP	Chesapeake Regional Information System for Our Patients
FY	Fiscal year
HIE	Health information exchange
HITECH	Health Information Technology for Economic and Clinical Health Act
HSCRC	Health Services Cost Review Commission
IAPD	Implementation Advanced Planning Document
ICN	Integrated care network
MDH	Maryland Department of Health
MHCC	Maryland Health Care Commission
MHIP	Maryland Health Insurance Plan

## OVERVIEW

In accordance with its statutory authority to approve alternative methods of rate determination consistent with the All-Payer Model and the public interest,<sup>1</sup> this report identifies the amount of continued funding support required in fiscal year (FY) 2019 to the Chesapeake Regional Information System for our Patients (CRISP), for the following purposes:

- Health Information Exchange (HIE) operations (\$1,500,000); and
- Implementation Advanced Planning Document (IAPD) matching funds (\$1,000,000)

The total amount of approved funding through hospital rates for these activities in FY 2019 is \$2,500,000. As shown in Table 3, \$1.5 million of this amount is designated for HIE operations and \$1.0 million to provide State matching funds for Implementation Advanced Planning Document (IAPD) programing and to obtain related federal funding.

The FY19 budget marks a departure from previous funding patterns due to the increased prevalence of Integrated Care Network (ICN) initiative activities targeting the Medicare population and the planning needed for the Total Cost of Care Model. For instance, funding for continued standard CRISP reporting services to hospitals in the State and the Maryland Health Services Cost Review Commission (HSCRC or Commission) will continue with ICN funds in FY 19.

As with past CRISP funding reports, this document separates out the funding request for HIE operations derived from the hospital rate setting system from those related to Integrated Care Network (ICN) initiative activities funded through the remaining Maryland Health Insurance Plan (MHIP) balance authorized under the Budget Reconciliation and Financing Act of 2015 (BRFA of 2015) As a reminder, the BRFA of 2015 permits the Commission to use the portion of the MHIP balance that was derived from the federal Medicare and Medicaid programs to support ICNs in FYs 2016 through 2019. ICN activities eligible for such funding are required to be designed to reduce health care expenditures and improve outcomes for unmanaged high-needs Medicare patients and patients dually eligible for Medicaid and Medicare, consistent with the goals of Maryland's All-Payer Model. A detailed explanation of those funds is included later in this report.

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<sup>1</sup> MD. CODE ANN., Health-Gen §19-219(c).

## BACKGROUND

### Past Funding

Over the past nine years, the Commission has approved funding to support the general operations of the CRISP HIE and reporting services through hospital rates as shown in Table 1.

**Table 1. HSCRC Funding for CRISP HIE and Reporting Services, FYs 2010-2018**

CRISP Budget: HSCRC Funds Received	
<b>FY 2010</b>	\$4,650,000
<b>FY 2011</b>	No funds received
<b>FY 2012</b>	\$2,869,967
<b>FY 2013</b>	\$1,313,755
<b>FY 2014</b>	\$1,166,278
<b>FY 2015</b>	\$1,650,000
<b>FY 2016</b>	\$3,250,000
<b>FY 2017</b>	\$2,360,000
<b>FY 2018</b>	\$2,360,000

In December 2013, the Commission authorized staff to provide continued funding support for CRISP for FYs 2015 through 2019 without further Commission approval as long as the amount does not exceed \$2.5 million in any year. In accordance with that policy, this staff report details funding to support the work of CRISP in the amount of \$2,500,000 to be generated through hospital rates.

### FY 2019 FUNDING THROUGH HOSPITAL RATES

Beginning in FY 2015, CRISP-related hospital rate adjustments are paid into an MHCC fund, and MHCC and the HSCRC review the invoices for approval of appropriate payments to CRISP. This process, along with the auditing of the expenditures, has created an extra layer of accountability. The remaining section details the infrastructure and support that will be funded in FY 19 through the hospital rate setting system.

### HIE Operations Funding

The value of an HIE rests in the premise that more efficient and effective access to health information will improve care delivery while reducing administrative health care costs. The

General Assembly charged the MHCC and HSCRC with the designation of a statewide HIE.<sup>2</sup> In the summer of 2009, MHCC awarded state designation to CRISP, and HSCRC approved up to \$10 million in startup funding over a four-year period through Maryland's unique all-payer hospital rate setting system. HSCRC's annual funding for CRISP is illustrated in Table 1 above.

The use of HIEs is a key component of health care reform, enabling clinical data sharing among appropriately authorized and authenticated users. The ability to exchange health information electronically in a standardized format is critical to improving health care quality and safety.

Many states, along with federal policy makers, look to Maryland as a leader in HIE implementation. Further investment in building CRISP's infrastructure is necessary to support existing and future use cases and to assist HSCRC as it moves to per-capita and population-based payment structures under the Total Cost of Care Model. A return on the investment will occur from having implemented a robust technical platform that can support innovative use cases to improve care delivery, increase efficiencies in health care, and reduce health care costs.

The total amount of funding approved by staff for FY 2019 for the HIE function is \$1.5 million.

### Implementation Advanced Planning Document

In addition to its role in HIE among providers, CRISP is also involved in health care reform activities related to HSCRC, MHCC, and the Maryland Department of Health (MDH). In its collaboration with the Medicaid program, uniform and broad-based funding through hospital rates can also be used to leverage federal financial participation under the Health Information Technology for Economic and Clinical Health (HITECH) Act, known as IAPD funding. Under the HITECH Act, the Centers for Medicare & Medicaid Services (CMS) may approve states for Medicaid Electronic Health Record Incentive Program funding, and states receive a 90 percent federal financial participation match for expanding HIE through 2021. This request will enable CRISP (working with MDH) to obtain federal funding. IAPD funding allows CRISP (working with MDH) to qualify for funding to implement use cases that compliment ICN activities.

In FY 19, the State's match of \$1.0 million will leverage \$10 million in federal funds for a variety of initiatives. Activities enabled through IAPD that enhance the point of care delivery include: encounter notification services, practice-level advanced-implementation support, ambulatory integration, hospital integration, and image exchange. Common infrastructure activities include: data routing and consent management, technical infrastructure and operations expense, and data architecture. Finally, there are a number of public health reporting initiatives as well, including: public health use case management, electronic lab reporting, MDH interface development and validation, and CMS Clinical Quality Measures reporting.

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<sup>2</sup> MD. CODE ANN., Health-Gen §19-143(a).

## **FUNDING OF INTEGRATED CARE NETWORK ACTIVITY UNDER THE BRFA OF 2015**

As discussed above, the BRFA of 2015 permits the Commission to use the portion of the MHIP balance that was derived from the federal Medicare and Medicaid programs to support integrated care networks (ICNs) designed to reduce health care expenditures and improve outcomes for unmanaged high-needs Medicare patients and patients dually eligible for Medicaid and Medicare, consistent with the goals of Maryland's All-Payer Model. Care management for this population is critical to the success of the current All-Payer Model and the Total Cost of Care All-Payer Model that will begin in January 2019. The ICN initiative is designed to encourage collaboration between and among providers, provide a platform for provider and patient engagement, and allow for confidential sharing of information among providers. To succeed under the current and future All-Payer Models, providers will need a variety of tools to manage high-needs and complex patients that CRISP is currently working to develop and deploy.

As the project has progressed, CRISP has reorganized the goals and funding of the ICN initiative around the venues where information is provided and used: (1) at the point of care, (2) by care managers and coordinators, (3) by population health teams, (4) for patients, and (5) by program administrators, provider executives, and policy makers.

At the close of FY 2018 and looking towards FY 2019, CRISP has focused its efforts to operationalize existing infrastructure to improve care coordination for high need/complex patients in support of the efforts to prepare for the Total Cost of Care Model.

HIE support and connectivity, reporting services, and analytic tools are all critical to the success of the Total Cost of Care Model as we look to continue care delivery transformation and coordination among different provider groups. Importantly, there will be a number of governance and planning decisions needed so that the Commission can properly utilize CRISP to engage and support all care partners. Among the issues that the Commission will have to ponder include:

- Extended authorization to use MHIP funds beyond FY19, which requires a legislative extension;
- Governance decisions for direction of ICN project and how to maintain ongoing support of those projects; and
- Funding for Care Redesign Program administration for existing and developing Care Tracks.

A full report of the ICN activities and corresponding budget as well as future planning issues will be provided to the Commission in a subsequent report.

## **SUMMARY**

Under the authority granted by the Commission, HSCRC staff approved a total of \$2.5 million in funding through hospital rates in FY 2019 to support the HIE and IAPD initiative activities for

the Commission. No additional funds are requested through hospital rates in FY 2019 to support ICN-related activities. Funding for FY 2019 ICN activities is through the appropriation and authority provided under the BRFA of 2015.

Table 2 shows the approved rate funding for HIE and standard reporting functions in FY 2019 including the federal match that will be generated from the IAPD funding.

**Table 2. FY 2019 Approved Rate Support for CRISP**

<b>FY 2019 Project Name</b>	<b>Budgeted Funding (State)</b>	<b>Budgeted Funding (Federal)</b>	<b>Total</b>
HIE Ops Assessment	\$1,410,000	--	\$1,410,000
IAPD Ops Match (10%)	\$90,000	\$810,000	\$900,000
IAPD Project Match (10%)	\$1,000,000	\$9,000,000	\$10,000,000
<b>Total funded through hospital rates</b>	<b>\$2,500,000</b>	<b>\$9,810,000</b>	<b>\$12,310,000</b>

State of Maryland  
Department of Health



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**Health Services Cost Review Commission**

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**TO: Commissioners**  
**FROM: HSCRC Staff**  
**DATE: June 13, 2018**  
**RE: Hearing and Meeting Schedule**

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July 11, 2018 To be determined - 4160 Patterson Avenue  
HSCRC/MHCC Conference Room

August 8, 2018 To be determined - 4160 Patterson Avenue  
HSCRC/MHCC Conference Room

Please note that Commissioner's binders will be available in the Commission's office at 11:15 a.m.

The Agenda for the Executive and Public Sessions will be available for your review on the Thursday before the Commission meeting on the Commission's website at <http://hsrc.maryland.gov/Pages/commission-meetings.aspx>.

Post-meeting documents will be available on the Commission's website following the Commission meeting.

# Implications of the Maryland Patient Referral Law and Oncology Services on Total Cost of Care

HSCRC Response to Legislative Inquiry

June 6, 2018

DRAFT



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## Executive Summary

This study and report emanates from a legislative request that the HSCRC look into whether legislation that had been recently proposed to provide safe harbors under the Maryland in-office ancillary provisions of the Maryland self-referral would have an impact on Maryland's new Total Cost of Care All-Payer Model. We reviewed materials including numerous national studies on self-referral, and the state of oncology and radiation therapy in the United States to understand the landscape and trends. We also met with stakeholders, toured facilities, and conducted data analysis on costs and volume in Maryland.

Based on the legislative request, the study has been limited to those services that are prohibited under the in-office ancillary provisions of the Maryland Patient Referral Law – radiation therapy, computed tomography (CT), and magnetic resonance imaging (MRI). We also limited the study to Medicare data since a primary concentration of the requirements of the Total Cost of Care All-Payer Model agreement with the Centers for Medicare & Medicaid Services (CMS) is on Medicare costs.

The scope of this study is also limited to the subject of the recent bills that addressed oncological radiation therapy and therapeutic CT. Since many of the national studies have expressed continued caution about the use of CT and MRI for diagnostic purposes, this study did not consider options for these types of services, although they could be the subject of further study if desired. Therefore, since MRI is a diagnostic tool, we have limited our approach to radiation therapy and CT used in conjunction with therapeutic oncology. Finally, since self-referral is currently permitted within hospital-owned facilities, we compared the costs and volume of these services at hospital outpatient facilities, freestanding facilities owned by hospitals, and freestanding facilities not owned by hospitals.

A review of the oncology workforce and related studies nationally show that there has been a continued shift of oncology services from physician offices to hospital outpatient facilities. Limited Maryland data on workforce trends demonstrate a similar picture. Shifts of services in general from physician practices to hospitals contribute to the growing financial losses at Maryland hospitals associated with unregulated physician services, and the concentration of the physician market at hospitals. For years, HSCRC staff has maintained that a healthy provider market is one that has both hospital-based, and non-hospital community-based physicians and providers working together for better patient care, and that it makes financial sense for hospitals to collaborate (not acquire) with community providers to the greatest extent practicable.

Several studies find that the trend is expected to continue and that radiation oncology is expected to continue to grow by about 19% between 2015 and 2025. The number of radiation oncologists per 100,000 population in 2015 is substantially similar in Maryland compared to the nation, 1.43 per 100,000 and 1.38 per 100,000, respectively.

Maryland radiation oncology centers serve about the average number of cancer cases per center compared to surrounding states - 738 per cancer center compared to the regional average of 728. Maryland also has among the fewest number of centers per 100,000 population compared to surrounding states, with 0.69 centers per 100,000 in population. This indicates that while there is a concentration of centers in central-Maryland, there could be a need for centers in rural and surrounding areas of the State.

Based on the available information summarized in this report, HSCRC staff concludes that it would be imprudent and potentially damaging to the Maryland Total Cost of Care All-Payer Model if self-referral of radiation therapy, CT, and MRI services were permitted under the self-referral law in the current fee-for-service environment. As shown in the Maryland data, radiation therapy is a high cost service; therefore, fluctuations in volume and cost from the base year for the total cost of care calculation can impact the total cost of care calculation, and create strain on the requirements of the Total Cost of Care All-Payer Model. However, under the auspices of value-based alternative payment models, this discussion could also lead to positive opportunities for total cost of care savings in Maryland.

Heretofore, Maryland has not been permitted by CMS to participate in national models such as the Oncology Care Model (OCM) and the Bundled Care for Performance Improvement Advanced (BPCIA), limiting Maryland's options in allowing physicians to participate in MACRA eligible programs that are not hospital-based. Currently only hospitals can be a convener under a care redesign alternative payment model in Maryland. Even if approved by Medicare, the existing self-referral law would prohibit radiation therapy providers from being conveners, or a medical oncology practice from being a convener, if it wishes to collaborate with a radiation therapy practice that it owns. Under a value-based Advanced Alternative Payment Model (Advanced APM), the volume incentives are removed, mitigating the risks of altering the self-referral law under a fee-for-service model.

It is in the best interests of the Maryland Total Cost of Care All-Payer Model for as many physicians as possible, particularly those who provide high cost services, to participate in an alternative payment model based on value (not volume) that uses the same incentives under which hospitals operate, regardless of the ownership arrangement. Therefore, as outlined in this study, serious consideration should be given to altering the Maryland Patient Referral Law in a very limited way so that providers of oncological radiation therapy and therapeutic CT services may participate, and/or be conveners, in an Advanced Alternative Payment Model regardless of the ownership arrangement in Maryland.

## Abbreviations

AAPM – Advanced Alternative Payment Model  
APM – Alternative Payment Model  
BCPIA – Bundled Payment for Care Improvement Advanced  
CCW - Medicare Chronic Condition Warehouse  
CMS - Centers for Medicare & Medicaid Services  
CRT - Conformal Radiation Therapy  
CT - Computed Tomography  
HHS – U.S. Department of Health and Human Services  
HSCRC – Health Services Cost Review Commission  
IGRT – Image Guided Radiation Therapy  
IMRT - Intensity-Modulated Radiation Therapy  
MACRA - Medicare Access and CHIP Reauthorization Act  
MEOS Payment - Monthly Enhanced Oncology Services Payment  
MHCC – Maryland Health Care Commission  
MPRL – Maryland Patient Referral Law  
MRI - Magnetic Resonance Imaging  
OCM – Oncology Care Model  
RT – Radiation Therapy  
SBRT - Stereotactic Body Radiation Therapy  
SRS - Stereotactic Radiosurgery  
TCOC – Total Cost of Care

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# Implications of the Maryland Patient Referral Law and Oncology Services on the Total Cost of Care

## Background

### Legislative Letter and request

This study has been conducted pursuant to a legislative request (Appendix I) for the Health Services Cost Review Commission (HSCRC) to assess the impact that recently proposed changes to the Maryland self-referral law (MPRL) could have on the Maryland Total Cost of Care All-Payer Model. In order to better understand the environment both nationally and in Maryland, the HSCRC has utilized available data and previous studies on the cost variation of Radiation Therapy (RT) and therapeutic Computed Tomography (CT) services by the type of cancer, the therapeutic procedure used, facility type, and by episode length.

The legislative request expressed concern that establishing safe harbors in the existing self-referral law could increase volume for exempt services and, therefore, be counter-productive to the work that has been done to reduce cost and improve quality at hospitals and throughout the health care system. This concern is validated given the structure under which Maryland will be held accountable for - increases in the total cost of care, not just hospital costs.

### HSCRC and move to Total Cost of Care Model

The State of Maryland is leading a transformative effort to improve care and reduce the growth in health care spending. Effective January 1, 2014, the State of Maryland and the Centers for Medicare & Medicaid Services (CMS) entered into a new initiative to modernize Maryland's unique all-payer rate-setting system for hospital services. As the State's hospital rate-setting authority, the HSCRC plays a vital role in the implementation of this innovative approach to health reform.

This initiative, replacing Maryland's 36-year-old Medicare waiver, allows Maryland to adopt new and innovative policies aimed at reducing per capita hospital expenditures and improving patient health outcomes. Maryland strives to transform its health care system into one that enhances patient care, improves health, and lowers costs. The All-Payer Model aims to promote better care, better health, and lower costs for all Maryland patients. In contrast to Maryland's previous Medicare waiver that focused on controlling increases in Medicare inpatient payments per case, the All-Payer Model (Model) focuses on controlling increases in total hospital revenue per capita. The Model established a cumulative annual limit on per capita revenue growth of 3.58 percent and a Medicare savings target of \$330 million over the initial five-year period of the Model. This Model, in essence, shifted the hospital payment system from one that included volume-based financial incentives to one that was value-based.

Success of the New All-Payer Model will reduce costs to purchasers of care—businesses, patients, insurers, Medicare, and Medicaid—and improve the quality of the care that patients receive both inside and outside of the hospital. Since 2014, the State, in close partnership with providers, payers, and consumers, has made significant progress toward this modernization effort.

For more than 40 years, the HSCRC has been responsible for developing, refining, and implementing policy geared toward achieving its mandate of providing maximum efficiency and effectiveness at Maryland hospitals and achieving the goals of the Maryland All-Payer Model. In recent years, however, its role has been expanded by the creation of, first of its kind, value-based models to improve care more broadly.

The Commission is an independent agency of Maryland government and is unique in the U.S. because it sets hospital rates for self-pay and commercial patients as well as for Medicaid and Medicare patients as a result of its waiver from Medicare's Prospective Payment System. Maryland is the only state in the country with such rate setting authority and consequently is able to develop and implement cutting edge policies that have been emulated in other parts of the country.

Beginning in 2019, Maryland is embarking on an even newer, upgraded effort to transform care delivery across the healthcare system with the objective of improving health and the quality of care of Marylanders, not just patients who go to Maryland hospitals. The newer version of the Model, known as the Total Cost of Care Model All-Payer Model, will move beyond hospitals to address patient care across the entire spectrum of care to include post-acute providers, nursing homes, and physicians, with the goal of improving the patient experience and controlling total cost of care. This new model is seen as one of the most leading edge tools for potential future changes to health care delivery and health payment policies nationally and will help drive value-based incentives beyond hospitals and into the broader provider environment.

This Total Cost of Care All-Payer Model was made official on May 14, 2018, when the federal government announced its approval of the new Model. The value-based incentives that over the past 4 years have been placed primarily on hospitals will now be expanded to total cost of care. This means that effective care coordination, quality and cost incentives, consumer-driven health care, and value-based models across the entire health care system in Maryland are essential and must involve all providers in the quest for better care at reasonable cost. The current All-Payer Model achieved overall health care savings of \$586 million since 2014, far above the required \$330 million. At the same time, Maryland hospitals reduced their readmissions rate to below the nation and met various other quality-related requirements of the former model. The new Model requires that total cost of care savings (Medicare Part A and Part B) be ramped up to \$300 million annually by the fifth year (2023). The new model will continue for 10 years so long as the State meets the requirements of its agreement with CMS.

## Federal Stark Laws

Self-referral occurs when a physician asks a patient to return for an appointment, refers the patient to another colleague within the physician's own medical group, or refers a patient for a service like a laboratory test, imaging study, or surgical procedure in a facility with which the physician has a financial interest.<sup>1</sup> The focus of self-referral laws has been on those referrals where there is a financial interest.

In response to growing evidence of significantly higher utilization rates when physicians who owned physical therapy or laboratory facilities referred patients to those facilities, Congress passed the "Stark Law" in 1989 to regulate these types of self-referrals.<sup>2</sup> The statute imposed limitations on such referrals when there is an ownership interest or compensation arrangement. Since 1989, the federal Stark Law has been broadened to include a wider range of services. Today the Stark law prohibits a physician or the physician's immediate family member from referring Medicare patients for designated health services to an entity in which the physician has a financial relationship. The law also prohibits a physician or health care entity from billing for services where an improper referral has been made. For the purposes of the Stark law, designated health services are considered to be the following:

- (A) Clinical laboratory services.
- (B) Physical therapy services.
- (C) Occupational therapy services.
- (D) Radiology services, including magnetic resonance imaging, computerized axial tomography scans, and ultrasound services.
- (E) Radiation therapy services and supplies.
- (F) Durable medical equipment and supplies.
- (G) Parenteral and enteral nutrients, equipment, and supplies.
- (H) Prosthetics, orthotics, and prosthetic devices and supplies.
- (I) Home health services.
- (J) Outpatient prescription drugs.
- (K) Inpatient and outpatient hospital services.
- (L) Outpatient speech-language pathology services.

While there are various exemptions to this law (See Appendix II for list of exemptions), the most notable one for the purpose of this report is that physicians are permitted to self-refer for designated health services that are performed within their own office. This is known as the "in-office ancillary service" exemption. The Stark law also states that if there is an ownership or investment interest in an in-office ancillary referral for magnetic resonance imaging (MRI), computed tomography (CT), positron emission tomography, and any other similar services designated by the Secretary of the U.S. Department of Health and Human Services (HHS), the referring physician is required to inform the patient in writing of the relationship at the time of

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<sup>1</sup> Casalino, Lawrence, "Physician self-referral and physician-owned specialty facilities", Research Synthesis Report No. 15, Robert Wood Johnson Foundation, June, 2008.

<sup>2</sup> Section 1877 of the Social Security Act (42 U.S.C. 1395nn)



referral. In addition, for certain imaging and radiology services, physicians are required to include with the notice a list of at least 5 other suppliers within a 25-mile radius and their location and contact information.

Maryland's law takes a different approach to the in-office ancillary exemption which will be described below. In recognition of the potential dichotomy between Stark and other federal fraud and abuse laws with the goal of moving from a fee-for-service payment system to a value-based payment system, the Patient Protection and Affordable Care Act of 2010 (ACA) requires the HHS Secretary, in consultation with the Office of the Inspector General, to study whether changes need to be made to the fraud laws, including Stark, to ensure that these laws do not interfere with the shift to alternative payment models (APMs) and bona fide value-based payment structures. A 2016 report by the Secretary of Health and Human Services in conjunction with Office of the Inspector General noted that fraud and abuse laws "may serve as an impediment to robust innovative programs that align providers by using financial incentives to achieve quality standards, generate cost savings and reduce waste"; and that the Stark Law is a "particularly difficult obstacle to structuring effective programs that do not run afoul of the fraud and abuse laws."<sup>3</sup>

A Health Care Leadership Council (HLC)<sup>4</sup> February 2017 report highlighted the need to consider further changes to Stark and fraud and abuse laws and regulation under a value-based system. One of the many options HLC proposed was to "issue safe harbors, exceptions, or guidance that effectively extend existing Anti-Kickback Statute and Physician Self-Referral (Stark) Law waivers for Medicare Shared Savings Program (MSSP) Accountable Care Organizations (ACOs) to all ACOs and to other organizations implementing alternative payment models that meet certain conditions, regardless of whether or not they are participating in the MSSP or other Medicare-specific program."<sup>5</sup>

Specific to the in-office ancillary services exception, which is the focus of this report, the ACA added a provision to require physicians to disclose financial interests to patients for the self-referral of imaging services, as described above.<sup>6</sup> This further explains the continuing caution of Medicare in the self-referral of imaging services.

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<sup>3</sup> Thorpe, J., Gray, E., "Health System Transformation: Revisiting the Federal Anti-Kickback Statute and Physician Self-Referral (Stark) Law to Foster Integrated Care Delivery and Payment Models", for Health Care Leadership Council, February, 2017, pgs, 12 and 13.

<sup>4</sup> The Healthcare Leadership Council (HLC), is a coalition of chief executives from all disciplines within American healthcare and is the exclusive forum for the nation's healthcare leaders to jointly develop policies, plans, and programs to achieve their vision of a 21st century system that makes affordable, high-quality care accessible to all Americans. Members of HLC include hospitals, health plans, pharmaceutical companies, medical device manufacturers, biotech firms, health product distributors, pharmacies, post-acute care providers, and academic health centers.

<sup>5</sup> Thorpe, J., pg. 16.

<sup>6</sup> Thorpe, J., pg.13.

One of the recommendations of HLC was to issue safe harbors for “activities or initiatives that involve the integration of care, items, services, and payment across stakeholders (i.e., industry, providers, and payers), that meet certain established value-based health care criteria and that are designed to improve patient outcomes and reduce the overall cost of providing care.”<sup>7</sup>

### Maryland Self-referral Law

The Maryland Patient Referral Law (MPRL - Health Occupations Article § 1-301, *et seq.*) was passed by the General Assembly in 1993 when fee-for-service (FFS) was the predominant method of payment. The original law addressed the rising costs of health insurance and medical care. The MPRL is a broad statute and goes beyond the federal Stark law, in that it applies to all health care practitioners licensed under the Maryland Health Occupations Article who deliver services to patients covered by Medicare, Medicaid, and the commercial insurance market. The Stark law focuses primarily on Medicare. Moreover, the MPRL is not limited to “designated health services” as defined in Stark and shown above, but instead extends to all health care services.

Under the MPRL, any physician or health care practitioner is prohibited from referring a patient, or directing an employee or contractor of the practitioner to refer a patient, to a health care entity in which the practitioner, or the practitioner in combination with his or her immediate family, owns a beneficial interest in the entity or where the practitioner, the practitioner’s immediate family, or the practitioner in combination with the practitioner’s immediate family, has a compensation arrangement with the entity.<sup>8</sup> The MPRL prohibits a health care entity or a referring health care practitioner from presenting to any individual, third party payer, or other person a claim, bill, or other demand for payment for health care services provided as a result of a prohibited referral. A health care practitioner who fails to comply with provisions of the statute is subject to disciplinary action by the health occupation board that licenses the health care practitioner. Payers are afforded remedies to recover payments that result from a prohibited referral under Maryland Health Insurance Article § 15-110(c)-(f) for insurance products and under Maryland Health-General Article § 19-712.4 (a)-(e) for HMO plans.

The MPRL contains 12 exemptions from the prohibitions on self-referral in the MPRL. Of particular note, exemptions in Health Occupations §1-302(d)(2)-(4) permit referrals that would otherwise be prohibited if the referral of the patient is from one health care practitioner to another health care practitioner in the same group practice [(d)(2)], if the referring physician refers the patient to a health care entity for services or tests and either personally performs or directly supervises the services or tests [(d)(3)], or if the health care practitioner refers for in-

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<sup>7</sup> Thorpe, pg. 15

<sup>8</sup> Under § 1-301(c)(2), a compensation arrangement is defined as not including certain arrangements such as (i) compensation or shares under a faculty practice plan or a professional corporation affiliated with a teaching hospital; (ii) bona fide employment agreements between a health care entity and a health care practitioner or an immediate family member of the health care practitioner; and (iii) certain independent contractor relationships between a health care entity and health care practitioner or immediate family member of the health care practitioner. These types of arrangements are excluded from the MPRL’s general prohibition on referrals set forth in § 1-302(a).

office ancillary services or tests under certain conditions [(d)(4)]. Also of note, the exemption in §1-302(d)(5) allows the Secretary of the Department of Health (MDH) to grant an exception if a health care practitioner's beneficial interest is essential to finance the health care entity and the service is needed to ensure appropriate access for the community to the services provided at the health care entity.

The law also provides an exemption from the general prohibition against self-referral for the referrals of end-stage renal disease patients to dialysis facilities as well as for health care practitioners who refer patients to hospitals in which the practitioner has a beneficial interest and who are authorized to provide services at the hospital and whose ownership or investment interest is in the hospital itself and not solely in a subdivision of the hospital.

The provision of the MPRL that has been the subject of the most attention, particularly over the last decade, is the definition of "in-office ancillary services." The MPRL defines permitted in-office ancillary services in Health Occupations §1-301(k) by expressly excluding MRI, radiation therapy, and CT services from the definition of "in-office ancillary services" for all physician groups or offices except for those consisting solely of one or more radiologists. A 2004 Attorney General's Opinion stated that the law barred self-referral for advanced imaging, the target of repeated efforts at reform.<sup>9 10 11 12 13 14 15</sup>

The question of whether non-radiology practices were permitted to self-refer for advanced imaging was resolved in 2011 when the Maryland Court of Appeals, in *Potomac Valley Orthopaedic Associates (PVOA), et al. v. Maryland Board of Physicians (MBP)*, affirmed the declaratory ruling by the Maryland Board of Physicians that the prohibition against physician self-referrals applies to an orthopedic surgeon's referral of a patient to another health care provider in the same group practice for a MRI or a CT scan.<sup>16</sup> In affirming the MBP's declaratory ruling, the Court of Appeals also rejected the appellants' claims that the self-referrals at issue were permitted under the exemptions in Health Occupations §1-302(d)(2)-(3) referenced above.

Related to cancer care, since 2011 there have been several complaints to the MBP regarding urology services. In one case, the Board issued a "Consent Agreement" with a three year monitoring of required information. During the interview process for this study, this case was cited by several stakeholders. It is not the purpose of this paper to explore these complaints, but it does highlight that as changes to the self-referral laws are contemplated, it is essential

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<sup>9</sup> 89 Op. Att'y Gen. 10, 17 n.8 (Jan. 2004).

<sup>10</sup> H.B. 849, 424th Gen. Assem., Reg. Sess. (Md. 2007).

<sup>11</sup> S.B. 708, 425th Gen. Assem., Reg. Sess. (Md. 2008).

<sup>12</sup> H.B. 673, 426th Gen. Assem., Reg. Sess. (Md. 2009)

<sup>13</sup> H.B. 324, 427th Gen. Assem., Reg. Sess. (Md. 2010)

<sup>14</sup> H.B. 782, 428th Gen. Assem., Reg. Sess. (Md. 2011)

<sup>15</sup> H.B. 408, 429th Gen. Assem., Reg. Sess. (Md 2012)

<sup>16</sup> 417 Md. 622 (2011)

that the Maryland Board of Physicians has the adequate resources and authority to ensure that physicians are operating within the confines of law and regulation.

### MHCC Report

In 2015, The Maryland Health Care Commission (MHCC) convened a workgroup to examine possible changes to the MPRL. While the workgroup did not make specific recommendations, it did achieve consensus on the need to modernize the law to (1) allow for the development of additional bona fide value-based payment models, risk-sharing arrangements, and alignment models; and (2) ensure emerging compensation arrangements are permissible.

During the 2016 interim session of the Maryland General Assembly, the chair of the House Health and Government Operations Committee requested that the Maryland Hospital Association and the Patient Care and Access Coalition convene a workgroup to attempt to achieve consensus on legislation to exempt collaborations to promote provider alignment from the prohibition on self-referral. The workgroup, comprising representatives of hospitals, physician groups, commercial payers, and government agencies, met six times. While the workgroup found some areas of agreement, it was unable to reach consensus on legislation.

According to the report of the workgroup, there was general consensus that the MPRL should not impede current or future Medicare payment models, and that Maryland law should protect and encourage these models. Despite this consensus, workgroup members differed on the precise method by which referrals for health care services made within the context of financial relationships under any new federally created models should be protected.

Extension of MPRL protection for referrals made by health care practitioners in commercial models that are structured consistent with the approved federal models was another area of controversy. Some workgroup members favored stronger consumer protections, such as notice to patients and protection from balance billing by health care practitioners participating in these commercial models.

Modifications to the MPRL have assumed greater urgency due to the State's All-Payer Model contract with the federal Center for Medicare and Medicaid Innovation (CMMI). During the 2015 MPRL report, the HSCRC advised that shared savings compensation arrangements between hospitals and physicians approved by CMMI could violate State law unless the MPRL is modified. The Work Group established eight principles and points of consensus for future conversation on the topic. The report stated that, "These principles affirm the importance of modernizing the MPRL within the statute's current framework, while aligning the statute with new value-based payment models and risk-sharing arrangements that are fostered by the Affordable Care Act and the new hospital payment model. The eight principles reflect the Workgroup's agreement that greater clarity is needed to promote greater innovation and experimentation around the new payment models."

## 2017 Legislation

The MHCC Work Group report culminated in legislation that passed during the 2017 Legislative Session. Senate Bill 369/Chapter 226 (Appendix III), was signed into law and permits exemptions to the Maryland self-referral law for certain compensation arrangements under federally approved programs or models.

A health care practitioner who has a compensation arrangement with a health care entity is exempt from the prohibition against self-referral if the compensation arrangement is funded by or paid under:

- (1) A Medicare Shared Savings Program accountable care organization (ACO);
- (2) An advance payment ACO model, a pioneer ACO model, or a next generation ACO model, as authorized under federal law;
- (3) An alternative payment model approved by the federal Centers for Medicare and Medicaid Services (CMS); or
- (4) Another model approved by CMS that may be applied to health care services provided to both Medicare and non-Medicare beneficiaries.

These exemptions may not be construed to;

- (1) permit an individual or entity to engage in the insurance business without obtaining a certificate of authority and satisfying all other applicable requirements;
- (2) impose additional obligations on a carrier providing incentive-based compensation to a health care practitioner or require the disclosure of information regarding the incentive-based compensation;
- (3) authorize a health care entity to knowingly make a direct or indirect payment to a health care practitioner as an inducement to reduce or limit medically necessary services to individuals who are under the direct care of the health care practitioner;
- (4) permit an arrangement that violates other specified provisions of law;
- (5) narrow, expand, or otherwise modify specified definitions; or
- (6) require another permitted compensation arrangement to comply with the bill's provisions.

For exempt payment models that apply to individuals covered under health insurance under which there is cash compensation, at least 60 days before an exemption is implemented, the participation agreement and other documents relevant to the payment model under which a compensation arrangement is funded or paid must be filed with the Insurance Commissioner.

The filing is not required if the compensation arrangement is funded fully by or paid fully under the Medicare or Medicaid program. The filing is subject to a \$125 filing fee.

Within 60 days after the participation agreement and other relevant documents are filed, the Commissioner must determine if any compensation arrangement is insurance business and violates the Insurance Article or a related regulation. If the Commissioner determines that a compensation arrangement is insurance business and violates the Insurance Article or a regulation, the Commissioner must issue an order to the filer that specifies the ways in which the compensation arrangement is in violation. The Commissioner must hold a hearing before issuing an order and must give written notice of the hearing to the filer at least 10 days before the hearing. The notice must specify the matters to be considered at the hearing.

If the Commissioner issues an order that a compensation arrangement funded by or paid under such a payment model violates the Insurance Article or related regulations, the exemption is null and void.

If the compensation arrangement changes during its term, the filer must submit a revised filing to the Commissioner for review of the changes, and the Commissioner must determine anew as to whether the compensation arrangement is the business of insurance or violates the Insurance Article or a regulation.

This bill did not change the in-office ancillary provisions of the Maryland Statute, therefore, even if radiation oncology, CT or MRI were approved under a federal model, the MPRL would still prohibit self-referral for these services.

#### [Recent Proposed Legislation to Alter the In-Office Ancillary Provision of MPRL](#)

During the each of the 2016, 2017 and 2019 sessions, legislation was introduced to alter the in-office ancillary provisions as they related to Oncology services.<sup>17 18 19</sup> Each of these bills proposed to implement a limited test or pilot for providing certain MPRL safe harbors for integrated community oncology services for compensation arrangements for therapeutic CT and Radiation Therapy services. Below is a summary of each of the approaches proposed in these bills:

##### [House Bill 1422 \(2016\)](#)

This bill would have established an integrated community oncology reporting program in the then Department of Health and Mental Hygiene (DHMH). The bill exempted a health care practitioner who has a beneficial interest in and practices medicine at an integrated community oncology center that participates in the program from general prohibitions against self-referrals by health care practitioners. The Secretary of Health and Mental Hygiene, in consultation with

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<sup>17</sup> H.B. 1422, 433<sup>th</sup> Gen. Assem., Reg. Sess. (Md 2016)

<sup>18</sup> H.B. 1053, 434<sup>th</sup> Gen. Assem., Reg. Sess. (Md 2017)

<sup>19</sup> H.B. 1519/S.B. 1024, 435<sup>th</sup> Gen. Assem., Reg. Sess. (Md 2018)

the MHCC, would have administered the program. The Secretary and MHCC would have been required to:

- (1) adopt implementing regulations by January 1, 2017;
- (2) report on the performance of each participating integrated community oncology center by January 1, 2018, and by January 1 of each year thereafter; and
- (3) conduct a performance evaluation of each participating center and recommend whether the exemption established under the bill should become permanent by January 1, 2028.

The provisions of the bill would then have terminated September 30, 2028.

The Bill was withdrawn toward the end of the 2016 Legislative Session.

#### [House Bill 1053 \(2017\)](#)

House Bill 1053 would have established an integrated community oncology reporting program in DHMH. The bill would have exempted a health care practitioner who has a beneficial interest in and practices medicine at an integrated community oncology center in the program from general prohibitions against self-referrals by health care practitioners. MHCC was required to administer the program and:

- (1) establish a specified clinical advisory workgroup to advise on the development of regulations and monitoring of participating centers;
- (2) adopt implementing regulations by November 1, 2017;
- (3) establish an application process, set application and participation fees, begin accepting applications on January 1, 2018, and monitor the performance of participating centers;
- (4) report on the performance of each center by December 1, 2019, and by December 1 annually through 2024; and
- (5) conduct a performance evaluation of each center and the impact of the program on Maryland's all-payer model contract by December 1, 2024.

MHCC was to select a consultant to serve as the program review manager to collect clinical, administrative, and patient satisfaction information and conduct required studies and reports. The provisions of the bill would have terminated June 30, 2025

This legislation passed the House of Delegates but did not receive a vote in the Senate.

#### [House Bill 1519/Senate Bill 1024 \(2018\)](#)

House Bill 1519 and Senate Bill 1024 required the MHCC to develop a process to establish "integrated community oncology group practices" that are located in specified "target regions" of the State and are exempt from the general prohibitions against self-referrals by health care practitioners. MHCC would have been required to adopt implementing regulations by December 1, 2018, and begin accepting applications by April 1, 2019. "Integrated community oncology group practices" would have been required to submit an annual performance report to MHCC for four years. After receipt of the fourth performance report, MHCC would have

submitted a report to the General Assembly on whether the “integrated community oncology group practice” has achieved the goals and milestones of the State’s all-payer model contract.

House Bill 1519 was withdrawn toward the end of the 2018 Legislative Session, while Senate Bill 1024 did not receive a vote.

## Scope of this Study

As indicated in the background section of this report, the issue of self-referral both nationally and in Maryland is broad and frequently controversial. For the purpose of this study, we take a limited scope based on the concerns expressed in the legislative letter for which this report has been undertaken. The letter specifically expresses concerns regarding the potential total cost of care implications of proposed bills during recent Maryland legislative sessions, particularly related to the implementation of an “integrated community oncology program.” As discussed above, these bills specifically focus on self-referral as it relates to oncology services and the in-office ancillary provisions of the MPRL.

The focus here is also on the implications that existing or potential future referral or payment practices would have on the total cost of care under Maryland’s recently approved enhancement to the Maryland All-Payer Model. Since the total cost of care cost metric is focused on Medicare, the analysis and focus of this study relates primarily to Medicare cost and quality. Though Maryland’s system is all-payer, the primary metrics for continuation of the Total Cost of Care All-Payer Model in Maryland relate to Medicare costs. Of course, quality metrics under Maryland’s agreement with Medicare apply across all-payers, so continued attention from a quality stand-point shall be extended to both Medicare and other payers.

In addition, the recent integrated community oncology bills addressed the self-referral law from a therapeutic perspective and did not proposed safe-harbors for diagnostic imaging such as MRI and CT used for diagnostic purposes. Thus, the approach in this report is to review literature and analyze data for Radiation Therapy and CT used for therapeutic purposes primarily. It is possible that some of the approaches discussed in the conclusions of this report could establish appropriate incentives for some diagnostic oncology services as well, however, experts have warned that creating episodes around diagnostic services can be problematic.

Therefore, this study is tailored to these concerns and issues and does not address self-referral as it relates to other types of services or beyond the in-office ancillary provisions of the law. Without analysis in those areas, it would be imprudent to assume that the conclusions of this report apply to other types of services or self-referral in a broader sense.

The purpose of this study, therefore, is to assess the potential implications that changes to the in-office ancillary provisions of the MPRL for oncology-related radiation therapy and therapeutic CT could have on the State’s total cast of care, and consider potential policy options based on those implications.



The HSCRC has taken a multifaceted approach to understanding, analyzing and opining on this issue. We have conducted an extensive literature review, met with various stakeholders, toured oncology centers, interviewed physicians, and performed data analytics.

The HSCRC has analyzed data from the Medicare Chronic Condition Warehouse (CCW) data set to better understand variations in cost for radiation therapy and therapeutic CT among hospital outpatient facilities, freestanding facilities owned by hospitals, and freestanding facilities not owned by hospitals in Maryland. The freestanding facility category is disaggregated in this way since under the self-referral law physicians may refer services to other hospital-owned practices or within a hospital-owned practice. This analysis will help to understand whether there are differences in cost and volume based on the ownership relationship. The HSCRC data team has also analyzed those costs by cancer type and procedure type under each type of cancer (modality), reflecting the different protocols and practice patterns of radiation therapy for each of these types of cancers.

We will also look at these services using episodes of 90-days since this episode length typically captures all of the services that occur after radiation therapy is complete.

Below is an example of the types of ancillary services that are typically associated with a radiation therapy episode:

- **Clinical Treatment Plan:** Process of the Radiation Oncologist designing the treatment of the patient.
- **Initial Set-up Simulation and Guidance:** Computerized simulation to map the actual treatment and positioning for the particular patient.
- **Devices:** Set of materials used to shield and immobilize the patient during radiation treatment.
- **Dosimetry:** Calculation of the amount of radiation the target and nearby structures would be exposed to during radiation treatment.
- **Delivery:** Delivery of the actual radiation therapy to the patient.
- **Guidance:** Imaging tests used to help the Radiation Oncologist place the radioactive source appropriately during treatment.
- **Physics:** Medical physicist services to support the Radiation Oncologist during treatment in delivering safe and effective treatment.
- **Management:** Radiation Oncologist's management and evaluation of the patient throughout treatment.

We will also analyze out-of-pocket costs in each of the sites of services, to assess the impact on patient expenditures for services; however, approximately 75% to 80% of Medicare patients have secondary insurance to cover some or all of these costs. The same does not hold true for commercial patients, which is not addressed in this study.

## Oncology and Radiation Oncology Landscape

In order to make policy decisions regarding Maryland's self-referral law, it is important to better understand the work force environment and prevalence of medical oncology, radiation oncology, and urology treatment both in Maryland and nationally.

The National Cancer Institute and the American Cancer Society (ACS) estimate that there were 1,688,780 new cancer cases and 600,920 cancer deaths in 2017.<sup>20</sup> The American Cancer Society also reported that the lifetime probability for developing cancer from 2010 to 2012 was 42.1% for males and 37.6% for females, while the probability of cancer death for this period was 22.6% for males and 19.1% for females.<sup>21</sup>

The National Cancer Institute also estimates that the costs for cancer therapy in 2010 in the United States reached more than \$124 billion, representing 5% of total health care spending; the figure is projected to reach \$157 billion by 2020.<sup>22</sup> In 2010, the most expensive cancers to treat were breast (\$16.5 billion), colorectal (\$14.1 billion), lymphoma (\$12.1 billion), lung (\$12.1 billion), and prostate (\$11.9 billion).<sup>23</sup>

The particular focus of this report is on radiation therapy. Radiation oncology represents one of the three pillars of cancer treatment – surgery, chemotherapy, and radiation. Radiation therapy is used in four primary circumstances: to reduce the size of a tumor prior to surgery (neoadjuvant therapy), as primary therapy (definitive therapy), post-operatively (adjuvant therapy), and for palliative treatment.<sup>24</sup> It is often a primary therapy for prostate, lung, breast, brain and brain metastases, head and neck, gynecological, skin, and other types of cancer as well as non-malignant conditions.<sup>25</sup> Radiation therapy is sometimes used in conjunction with chemotherapy, surgery, or other treatment modalities.

Nationally, radiation therapy services in a hospital outpatient facility covered by Medicare are paid under the Hospital Outpatient Prospective Payment System (OPPS). In Maryland, the HSCRC established the relative value units for this service. Freestanding radiation therapy centers nationally and in Maryland are paid under the Medicare Physician Schedule.

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<sup>20</sup> NCI: <https://seer.cancer.gov/statfacts/html/all.html> and American Cancer Society. (n.d.) Cancer Statistics Center. <https://cancerstatisticscenter.cancer.org/#/>.

<sup>21</sup> American Cancer Society Surveillance Research. (2016). Lifetime Probability of Developing and Dying from Cancer for 23 Sites, 2010-2012. Retrieved from <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2016/lifelong-probability-of-developing-and-dying-from-cancer-for-23-sites-2010-2012.pdf>.

<sup>22</sup> Sullivan, R., Peppercorn, J., Sikora, K., Zalberg, J., Meropol, N. J., Amir, E., & Fojo, T. (2011). Delivering affordable cancer care in high-income countries. *The lancet oncology*, 12(10), 933-980.

<sup>23</sup> Sullivan, R.

<sup>24</sup> Report to Congress: Episodic Alternative Payment Model for Radiation Therapy Services, November 2017

<sup>25</sup> Ibid.

## Nationally

In April 2017, The American Society of Clinical Oncology released a report entitled “*The State of Cancer Care in America 2017, A report by the American Society of Clinical Oncology*”.<sup>26</sup> This report summarized the landscape and issues for oncology in America and included data on the work force and the types and sizes of oncology practices. The table below shows the distribution of the types of physicians in the United States dedicated to direct oncology care. Oncology care is typically conducted by a team, frequently led by a Medical Oncologist, or for prostate cancer care it is typically led by an Urologist. The radiological team typically includes a radiation oncologist, radiation oncology nurses, dosimetrists, and a medical physicist.

Since care options are numerous and dependent on the cancer type, many oncology practices include physicians from various specialties such as those shown in Table 1. Care may also be provided by other providers which may or may not be part of an oncology practice such as “primary care providers, surgeons, pathologists, nurses, nurse practitioners, physician assistants, medical technicians, genetic counselors, social workers, mental health specialists, pharmacists, and pain and palliative care specialists.”<sup>27</sup>

**Table 1. National Number of Direct Care Oncology Physicians by Specialty**

Oncology Specialty	Physicians in Direct Patient Care
Medical Oncology/Hematology	12,166
Gynecologic Oncology	455
Pediatric hematology/Oncology	1853
Radiation Oncology	4457
Surgical Oncology	429

Various studies have observed the shift of oncology services from physician offices to hospital outpatient facilities, as well as the continued acquisition of oncology practices by hospitals. A 2015 report on community integrated oncology services conducted by Berkeley Research Group (BRG) showed that in 2008, 82% of chemotherapy services were performed in a physician office versus a hospital outpatient setting compared to 66% in 2013.<sup>28</sup> The report projected that in 2018 about half of all chemotherapy services will be provided at a hospital outpatient facility.<sup>29</sup> A CMS analysis showed that roughly 62% of radiation therapy episodes between January 1, 2013 and December 31, 2015 were furnished in a hospital outpatient

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<sup>26</sup> Kirkwood, M. , “The State of Cancer Care in America 2017, A report by the American Society of Clinical Oncology”, *Journal of Oncology Practice*, Volume 13, Issue 4, April 2017.

<sup>27</sup> Ibid, pg e370

<sup>28</sup> Younts, J., Vanervelde, A., “A Detailed Diagnosis of Integrated Community Oncology”, BRG Healthcare, 2015, pg.

16

<sup>29</sup> Ibid.

department.<sup>30</sup> At the same time, 38% of the Medicare episodes during that time period were provided in a freestanding radiation therapy center.

The BRG report explains that this trend is exacerbated by the hospital acquisition of community oncology practices. The BRG report states that the main pressures on physicians to move into the hospital setting are:

- Employment of oncologists and/or acquisition of community oncology practices to compete with other community-based practices;
- Growing costs to operate a private physician practice;
- Control of referral networks; and
- 340B drug pricing available to eligible hospitals.<sup>31</sup>

The in-office ancillary exception in the Stark law has been an important protection for integrated community oncology practices that has helped to insulate further shifting to hospitals. The BRG report states that the demise of the in-office ancillary exemption nationally would accelerate the trend toward hospital acquisitions.<sup>32</sup> This is the situation for Radiation Oncology in the Maryland self-referral law and, therefore, one could assume from the BRG conclusion that this adds additional pressure for medical and radiation oncology to be further consolidated at hospitals in Maryland.

A 2012 study by Avalere Health utilized 3 years of commercial health plan data on radiation therapy and found that roughly half of all radiation therapy treatment episode were provided in a hospital outpatient facility versus an office-managed practice.<sup>33</sup>

A study in the International Journal of Radiation Oncology in 2016 isolated workforce trends for radiation therapy and conducted a supply and demand analysis for 2015 to 2025. The Table below, highlights the expected growth in radiation oncology over the next 10 years showing a projected increase in treatment by 19%. The most prominent episodes are for the treatment of breast, lung, and prostate cancers.

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<sup>30</sup> <https://www.ccwdata.org/web/guest/home>.

<sup>31</sup> Younts, J. pg. 15.

<sup>32</sup> Ibid, pg. 14.

<sup>33</sup> Avalere Health, LLC, "Total Cost of Cancer Care by Site of Service: Physician Office vs Outpatient Hospital", March 2012, pg. 11.

**Table 2.<sup>34</sup> Projected estimates of patients receiving radiation therapy during their first treatment course, 2015 and 2025**

Cancer Type	2015	2025	Projected % increase
Breast (invasive)	110,000	130,000	14
Lung	81,000	100,000	24
Prostate	81,000	100,000	30
Oral	25,000	28,000	13
Breast (in situ)	23,000	26,000	13
Thyroid	22,000	23,000	9
Colorectal	19,000	23,000	18
Central Nervous System	14,000	15,000	13
Uterus	13,000	15,000	18
Non-Hodgkin Lymphoma	11,000	13,000	21
Larynx	9,300	11,000	20
Esophagus	8,900	11,000	23
Cervix	6,800	7,700	13
Other	61,890	75,220	18
All	490,000	580,000	19

Note: All numbers are rounded

Source: Pan, International Journal of Radiation Oncology

This supply and demand study also projected that the number of full-time equivalent radiation oncologists in the nation will increase by 27% between 2015 and 2025. For this period of time demand for radiation oncology services is expected to increase by 19%, indicating that the supply is expected to grow faster than the demand for these services. The study, however, stopped short of determining whether this expected growth would result in an over or under supply for these services due to limitations in the data set. They suggested further review.

From a regulatory standpoint, only Maryland and New Jersey have specific prohibitions in their statutes regarding self-referral of radiation therapy services. However, 18 states have Certificate of Need (CON) laws that restrict magnetic resonance imaging (MRI), and 23 have CON provisions with restrictions on radiation therapy.

### Maryland

In attempt to understand the market for oncology services in Maryland, the Maryland Health Care Commission shared data from the Board of Physician Licensure renewal files for 2013-2014, 2014-2015, and 2015-2016 (licensure takes place every 2 years). While it would be

<sup>34</sup> Pan, H., Haffty, B., Falit, B., et al., "Supply and Demand of Radiation Oncology in the United State: Updated Projections for 2015 and 2025", International Journal of Radiation Oncology, Vol. 96, No. 3, Feb. 2016, pg. 486.

preferable to go back further than 2014 to discern patterns of shift from facility types, 2014 was the earliest period where the data comparisons were considered reliable and from this source. Nonetheless, the limited data do show some recent trends.

### Oncology Physicians

Table 3 below shows the number of oncology physicians in Maryland in 2014 through 2016 regardless of whether they self-selected a site of service or not (approximately 13% of all Oncologists and Urologists did not select a site of service). As indicated in this report, a medical oncologist tends to be the leader of an oncology team, except for prostate cancer where the urologist tends (although not always) to oversee the care of those patients. Therefore, not surprisingly, of the 374 oncology physicians, 225 are medical oncologists in Maryland

Since Urologist play an important role in prostate care, we have included the number of urologists in the State as well. There were 213 Urologist in the state in 2016, and that represents an increase of 3.9% over the past 2 years.

**Table 3. Oncology and Urology Physicians Counts, 2014-2016**

<b>All Oncology and Urology Doctors, Maryland, 2014-2016</b>				
<b>Primary Concentration</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>% Change</b>
<b>Oncology</b>	<b>#</b>	<b>#</b>	<b>#</b>	<b>2014-2016</b>
Oncology Medical	225	228	229	-1.75
Oncology Radiation	86	84	82	4.88
Hematology/Oncology, Pediatric	22	25	24	-8.33
Oncology, Gynecological	19	17	16	18.75
Oncology, Musculoskeletal	6	5	3	100.00
Surgery, Complex General Surgical Oncology	16	11	9	77.78
<b>Subtotal</b>	<b>374</b>	<b>370</b>	<b>363</b>	<b>3.03</b>
<b>Urology</b>				
Urology	178	182	177	0.56
Urology, Female Pelvic Medicine and Reconstructive	7	6	3	133.33
Urology, Pediatric	7	7	7	0.00
Surgery, Urological	21	18	18	16.67
<b>Subtotal</b>	<b>213</b>	<b>213</b>	<b>205</b>	<b>3.90</b>
<b>Total</b>	<b>587</b>	<b>583</b>	<b>568</b>	<b>3.35</b>

\*Sources: Board of Physician Licensure Renewal File, 2015-2016, 2014-2015, 2013-2014

Note: All numbers are unofficial physician counts derived from information provided to the Maryland Board of Physicians during licensure renewal.

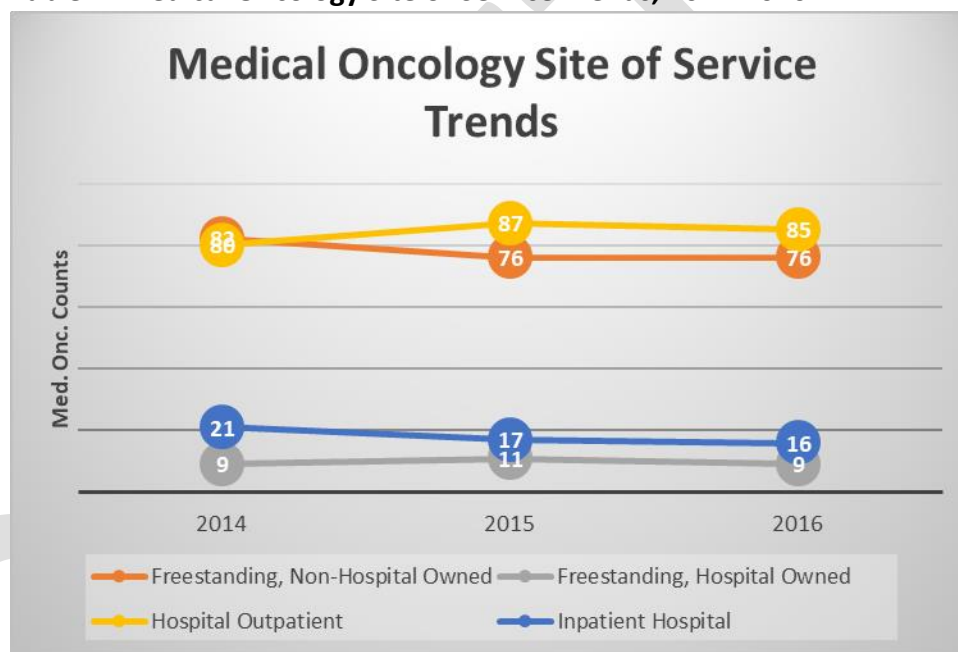
\*\*This Table includes all Oncology and Urology Physicians, including those who did not select a site of service

The Tables below illustrate the trends in the oncology work force by the site of service using the following categories: hospital inpatient, hospital outpatient, hospital owned freestanding facility, and non-hospital owned freestanding facility. Approximately 13% of all Oncologists and

Urologists in State did not self-select a site of service, so the totals in Table 3 above will not match the totals in Tables 4 through 6 below. Many national studies have illustrated shifts of physician services from physician offices to hospital outpatient facilities. The data below, will help to discern any such shifts for medical oncology, radiation therapy, and urology in Maryland.

Table 4 below shows a reduction in the number of medical oncologists practicing in non-hospital owned freestanding facilities, and an increase in those practicing at hospital outpatient centers during the past 2 years. The trends here are consistent with the trends discussed in many of the national studies, although a longer time series would be more helpful in realizing this trend over time.

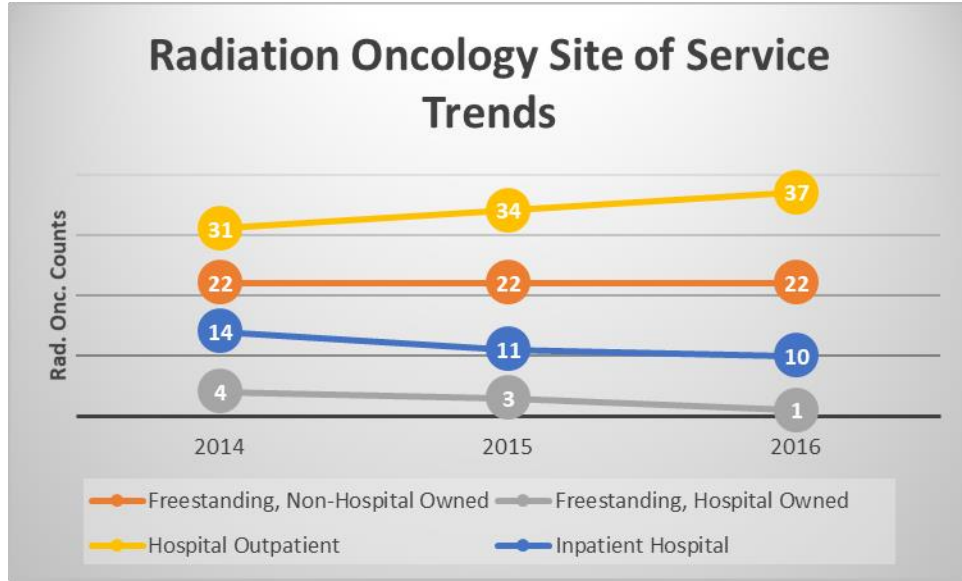
**Table 4. Medical Oncology Site of Service Trends, 2014-2016**



\*Sources: Board of Physician Licensure Renewal File, 2015-2016, 2014-2015, 2013-2014  
 Note: All numbers are unofficial physician counts derived from information provided to the Maryland Board of Physicians during licensure renewal.

Likewise, Table 5 shows a growth in the number of radiation oncologists practicing at hospital outpatient departments; however, the number of radiation oncologists in non-hospital owned freestanding facilities has remained the same over this period.

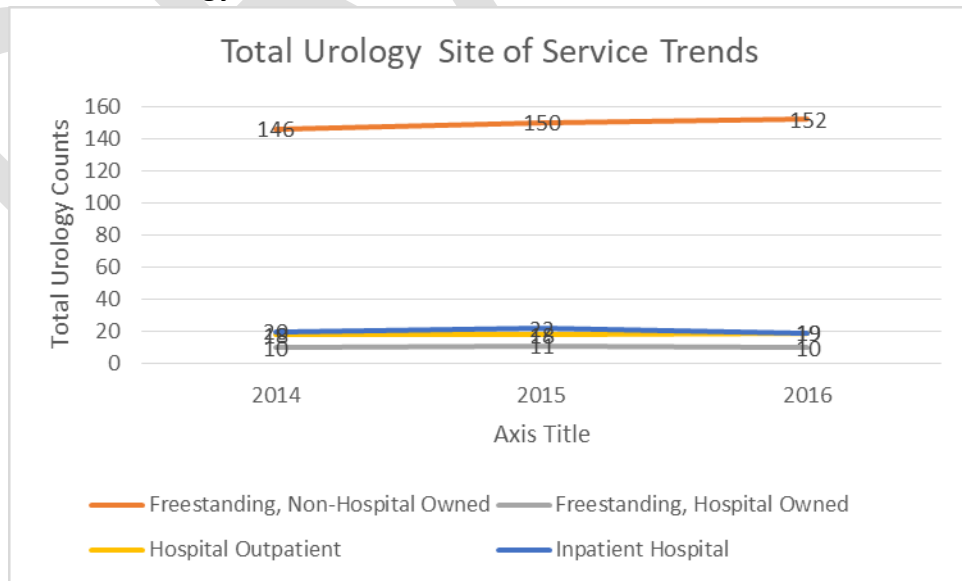
**Table 5. Radiation Oncology Site of Service Trends, 2014-2016**



\*Sources: Board of Physician Licensure Renewal File, 2015-2016, 2014-2015, 2013-2014  
 Note: All numbers are unofficial physician counts derived from information provided to the Maryland Board of Physicians during licensure renewal.

As for Urology, Table 6 below shows that a great majority of urologists practice in non-hospital owned freestanding facilities around the State. The number of Urologists in non-hospital owned freestanding settings has increased, while the number of Urologists serving in other settings has declined slightly during the period.

**Table 6. Urology Site of Service Trends, 2014-2016**



\*Sources: Board of Physician Licensure Renewal File, 2015-2016, 2014-2015, 2013-2014  
 Note: All numbers are unofficial physician counts derived from information provided to the Maryland Board of Physicians during licensure renewal.



Table 7 utilizes the available supply data for radiation oncologists nationally displayed in Table 1 above and compares that to data available in Maryland from the Board of Physician licensure files for the same year. While these are different data sets, it can help to draw comparisons in the prevalence of radiation oncology and the supply of radiation oncologists in Maryland compared to the nation. Table 7 shows that the number of radiation oncologists per 100,000 population in 2015 is substantially similar in Maryland compared to the nation, 1.43 per 100,000 and 1.38 per 100,000, respectively.

**Table 7. 2016 Radiation Oncologist per 100,000 population Maryland vs. Nation**

	# Radiation Oncologists	Population	Per 100,000 population
<b>United States</b>	4,457	322,762,018	1.3809
<b>Maryland</b>	86	6,024,752	1.4274

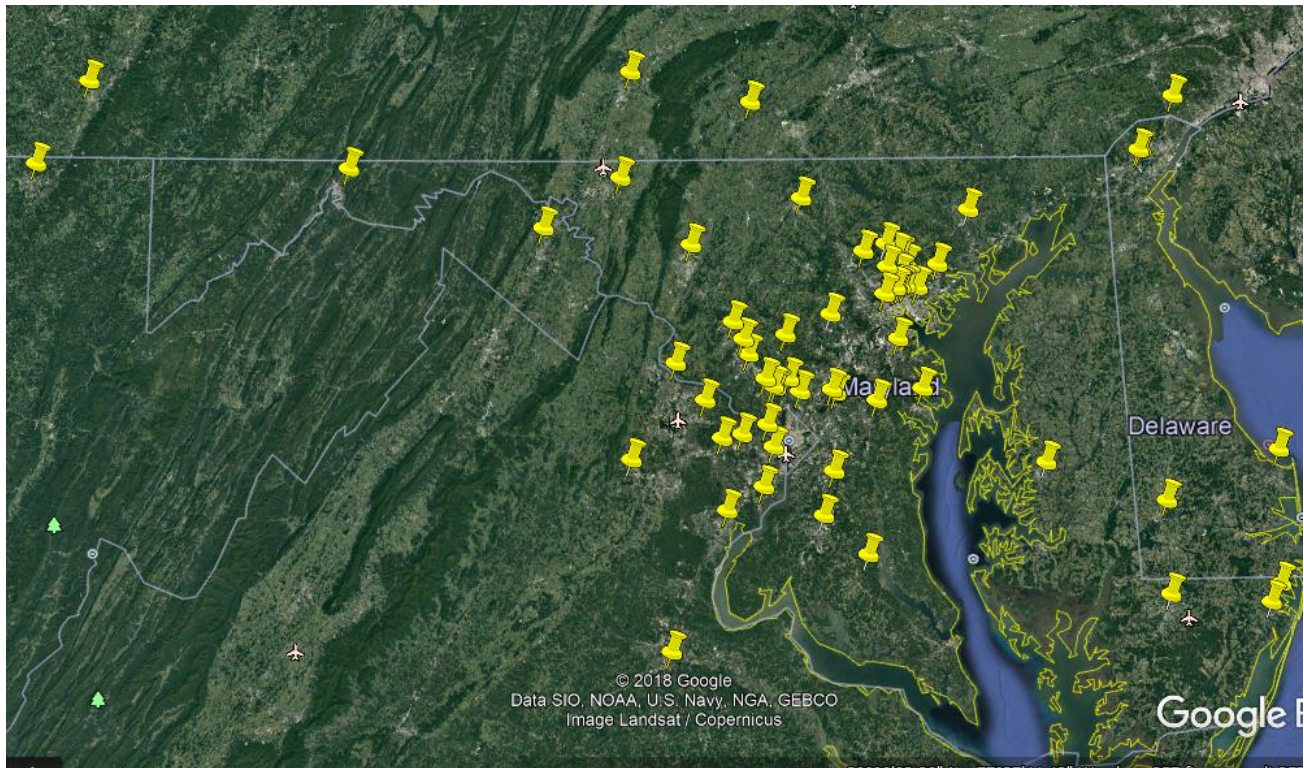
\*Sources: Board of Physician Licensure Renewal File, 2015-2016

#### Radiation Oncology Centers

There are 42 radiation oncology centers in Maryland. Exhibit 1 below displays where hospitals are located in Maryland and along its borders. The bulk of the centers are concentrated around central Maryland, where the majority of the State's population resides. Many of these centers are co-located with private medical oncology practices or at least within proximity to medical oncology practices.

Of the 42 centers, 38 are owned by hospitals and 4 are owned by physicians. The 4 owned by physicians are located in Berlin, Gaithersburg, Greenbelt and Owings Mills.

**Exhibit 1. – Location of Radiation Oncology Centers in Maryland and On Borders**



Certification of radiation oncology centers by an accrediting entity is voluntary in Maryland. The 3 primary certification organizations are the American Society of Radiation Oncology (ASTRO), the American College of Radiology (ACR), and the American College of Radiation Oncology (ACRO). Some centers are certified by multiple accrediting organizations. Separate recognition is provided by The Commission on Cancer, which certifies centers based on meeting certain practice protocols and requirements. Of Maryland’s 42 centers, 35 are accredited by either ASTRO, ACR, or ACRO. In addition, 25 centers have obtained recognition from the Commission on Cancer (CoC). The number of centers certified by each organization appear in Table 8.

**Table 8. Number of Maryland Radiation Oncology Centers Certified by Entity**

Certification Entity	Radiation Oncology Centers Certified
American Society of Radiation Oncology (ASTRO)	4
American College of Radiology (ACR)	28
American College of Radiation Oncology (ACRO)	3
<b>Total</b>	<b>35</b>

\* Source: Maryland Radiological Society, 2017

To compare the density of radiation oncology centers in Maryland, we have obtained data on the number of oncology centers, number of cancer cases, and population for Maryland and the surrounding states.

**Table 9. 2017 Radiation Centers and Demographics by Surrounding States**

	MD	PA**	VA	DE	WV	DC	Mean of Border States
# of Radiation Therapy Centers*	42	118	58	6	17	5	41
2017 Estimated Cancer Cases (non-skin)	30,990	77,710	42,770	5,660	11,690	3,070	28,180
Invasive Cancer Cases /Radiation Oncology	738	659	737	943	688	614	728
Population of State 2017 Estimated	6,052,177	12,805,537	8,470,020	961,930	1,815,857	693,972	4,949,463
Radiation Oncology Centers per 100,000	0.69	0.92	0.68	0.62	0.94	0.72	0.78
Radiation Oncology Centers per 1,000	1.36	1.52	1.36	1.06	1.45	1.63	1.40

\* Source: *Radiation Therapy Facilities in the United States, Int. J. Radiation Oncology Biol. Phys, (2006)*, adjusted by recent survey of State Regulatory Agencies

\*\* The number of centers in PA is unadjusted from the 2006 report

Maryland radiation oncology centers serve about the average number of cancer cases per center compared to surrounding states - 738 per cancer center compared to the regional average of 728. Maryland also has among the fewest number of centers per 100,000 population, with 0.69 centers per 100,000 in population. The regional average is 0.78 per 100,000 population. Maryland has an average number of radiation oncology centers per 1,000 cancer cases in the region with 1.36 centers per 1,000 cases compared to 1.40 across the region.

The fact that Maryland is among the lowest of surrounding states in the number of radiation oncology centers per 100,000 population indicates that while there is a concentration of centers in central-Maryland, there could be a need for centers in rural and surrounding areas of the State. However, further study would be required to determine the actual need in those and other areas.

### Studies on Self-referral of Oncology Services

There have been various studies and reports over the years related to the issue of self-referral of oncology services. Some studies/reports were generated over the concern that self-referral of diagnostic oncology, such as imaging, may create incentives for over utilization of such

services. Others suggest that the lower cost of care at freestanding facilities could reduce the cost of oncology services.

Appendix IV summarizes the studies that have been frequently used during discussions on the issue of altering the in-office ancillary provision in the Maryland self-referral law. The culmination of all of these and other studies provide the following impressions that should be considered when making policy decisions related to Maryland's self-referral law, and are used in drawing conclusions in this report:

#### Costs of Radiation Therapy

From 2000 to 2010, the volume of physician billing for radiation treatment increased 8.2%, while Medicare Part B payments for radiation treatment increased 216%.<sup>35</sup> Researchers indicate this increase in payments for radiation during this period was primarily due to significant uptake in a certain type of radiation therapy (Intensity-Modulated Radiation Therapy, or "IMRT").<sup>36</sup> In another study, researchers predicted that, "from 2010 to 2020, the demand for radiation therapy during the initial treatment course is expected to increase by 22% (from 470,000 patients receiving radiation therapy in 2010 to 575,000 patients receiving radiation therapy in 2020) as a result of the aging and diversification of the US population."<sup>37</sup>

For the same period (2010–2020), the number of adults age 65 and older requiring radiation therapy during the initial treatment course is projected to increase 38% (from 282,000 to 388,000) compared with a 1.7% increase (from 188,000 to 191,000) for individuals younger than age 65 treated with radiation therapy.<sup>38</sup>

#### Payment, Self-Referral, and Utilization

There is clear evidence that under a fee-for service payment structure, reimbursement has played a role in clinical decisions for patient care. Various studies have shown that self-referring for diagnostic imaging services and IMRT services has driven increases in utilization and overall cost of these services. Some of the incentives may have been mitigated due to changes in reimbursement by Medicare for IMRT and other types of services. Nonetheless, the concern continues to be raised in a fee-for-service environment where the more physicians do, the more they get paid. It is clear that the Maryland Total Cost of Care All Payer Model is moving away from these types of incentives. Certainly, the governmental payers are as well. Also, greater concerns have been expressed for diagnostic imaging services rather than for radiation therapy services and CT scans when done as part of a therapy regimen. While there

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<sup>35</sup> Shen, X., Showalter, T. N., Mishra, M. V., Barth, S., Rao, V., Levin, D., & Parker, L. (2014). Radiation oncology services in the modern era: Evolving patterns of usage and payments in the office setting for Medicare patients from 2000 to 2010. *Journal of Oncology Practice*, 10(4), e201-e207.

<sup>36</sup> Ibid

<sup>37</sup> Smith, B. D., Haffty, B. G., Wilson, L. D., Smith, G. L., Patel, A. N., & Buchholz, T. A. (2010). The Future of Radiation Oncology in the United States from 2010 to 2020: Will Supply Keep Pace with Demand? *Journal of Clinical Oncology*, 28(35), 5160-5165.

<sup>38</sup> Ibid.



are options for treatment of different types of cancer, there are clear protocols for each of the options, and physicians are well aware of the risks of over-radiation of patients.

Therefore, policy considerations should put emphasis on value-based models for self-referred imaging and radiation therapy services with a focus on therapeutic services. As stated in a study by Cureus, “while improper variation in IMRT utilization can increase costs without improving outcome, appropriate use of IMRT can be highly beneficial.”<sup>39</sup>

#### Site of Service Cost Differences

Various studies have looked at the cost of chemotherapy services in hospital outpatient settings versus physician offices. Studies have shown that chemotherapy services provided in physician offices can be less expensive with either similar or fewer emergency department visits. Some studies factored in reduced prices for drugs at 340B hospitals; others did not.

These studies however, do not focus on Radiation Therapy, which is the subject of this study. Costs of radiation therapy services by site of service may or may not comport with the findings for chemotherapy services. Below, we will provide an analysis comparing the cost of Radiation Therapy services conducted at hospital outpatient facilities in Maryland versus freestanding facilities - both those owned by hospital and those not owned by hospitals.

An Avalere Study, however, conducted a radiation therapy site of service analysis from commercial health plan data.<sup>40</sup> The study analyzed data on 19,025 patients who received all of their radiation therapy for a single episode in either a freestanding radiation therapy center (office-managed) or a hospital outpatient department. The study found that the average cost of an office-managed radiation therapy episode was about \$16,300, while the average cost of a hospital outpatient facility-managed radiation therapy episode was \$16,000, a 2 percent difference.<sup>41</sup> The average radiation therapy episode lasted 2.1 months for office-managed patients versus 1.9 months for hospital outpatient facility-managed patients.<sup>42</sup> Interestingly, hospital outpatient radiation therapy episodes of one or two months were between 7 and 17 percent more expensive than similar-length freestanding office-managed episodes, while hospital outpatient episodes of three months were 4 percent less expensive.<sup>43</sup> The study does caution, however, that the risk adjustment model adjusts for some factors but not all relevant factors that could influence this outcome. They also did not control for modality (the procedure type) used during the episode. The HSCRC analysis below will differentiate between modality to provide a more refined analysis.

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<sup>39</sup> Kao J, Zucker A, Mauer E L, et al. (April 25, 2017) Radiation Oncology Physician Practice in the Modern Era: A Statewide Analysis of Medicare Reimbursement. *Cureus* 9(4): e1192. DOI 10.7759/cureus.1192

<sup>40</sup> Avalere Health, LLC

<sup>41</sup> Avalere, Health LLC, pg. 15.

<sup>42</sup> Ibid.

<sup>43</sup> Ibid.

Related to the site of service, many of the identified studies highlight the shift of oncology practice from physician offices to hospitals. This has clearly been a trend across most sub-specialties. Factors for this shift include competition, the desire for hospitals to establish coordinated care among hospital services, reimbursement, MACRA, and 340B drug pricing at hospitals. Participation of Maryland hospitals in the 340B program continues to expand.

The 340B Drug Pricing Program allows certain hospitals and other health care providers (“covered entities”) to obtain discounted prices on “covered outpatient drugs” (prescription drugs and biologics other than vaccines) from drug manufacturers. Manufacturers must offer 340B discounts to covered entities to have their drugs covered under Medicaid. The discounts are substantial. Manufacturers must offer 340B discounts to covered entities to have their drugs covered under Medicaid. Currently 25 of Maryland’s 47 hospitals participate in 340B (Appendix V).

If, in fact, non-hospital freestanding oncology practices were permitted to refer for radiation therapy, CT and MRI services, proponents argue that this would allow for integrated community oncology services to be provided in Maryland, as in other states. A BRG study states, and as confirmed by many of the studies reviewed here, integrated community oncology can provide three primary benefits to patients:

1. Lower costs relative to hospital outpatient care;
2. Efficient care delivery, particularly through medical home models; and
3. Personalized delivery of care.<sup>44</sup>

Maryland hospitals today can and do provide integrated oncology care throughout the State today. However, this report provides an opportunity to encourage collaboration between hospital owned and non-hospital owned oncology centers to utilize their assets to provide the best care for patients, at the most appropriate setting, and at reasonable cost. Under the new Total Cost of Care All-Payer Model, it is in the best interests of the State for providers to work together to improve quality, reduce total cost of care, and provide care that is patient-centered (not site of service centered). However this opportunity must be measured and controlled, like all other Medicare value-based models.

Also, HSCRC staff has long held the position that the Maryland health care system is most healthy when there are both hospital-based and community-based non-hospital owned options for care across the State, provided that the supply does not exceed demand for those services. It is not appropriate for all health care services to be consolidated at the hospital. The trends, however, continue to move in that direction. Maryland hospitals’ physician losses continue to grow, placing financial pressure on hospitals as they invest in practice transformation. Collaboration of services with non-hospital providers in most cases is less expensive, prudent,

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<sup>44</sup> Younts, J., pg. 6

and can be more patient convenience oriented, provided those community physicians are operating under the same or similar value-based incentives under which Maryland hospitals now operate.

Under the new Total Cost of Care All-Payer Model, it is essential that physicians in the community are under similar incentives as the hospital system. It would be in the best interests of the system to encourage physicians, whether their practices are owned by hospitals or not, to join value-based models, Advanced APMs, and other non-volume based payment structures.

## Maryland Analysis: Cost Differences between Sites of Services

The previous section highlights studies and data analysis conducted nationally. The HSCRC has utilized data available from CMS on the cost and volume of radiation therapy services as well as the cost by cancer type, modality, and the site of service.

We used hospital outpatient and physician fee schedule claims, accessed through CMS' Chronic Conditions Data Warehouse (CCW). The radiation treatment delivery services included various types of external beam radiation therapy such as 3-dimensional conformal radiation therapy (3DCRT), intensity-modulated radiation therapy (IMRT), stereotactic radiosurgery (SRS), stereotactic body radiation therapy (SBRT), and brachytherapy. We identified an episode which starts at the first planning code for radiation therapy services and lasted for 90 days. Based on a national analysis of Medicare claims, roughly 99% of beneficiaries receiving radiation therapy completed their course of radiation within 90 days of when their radiation treatment was planned.

The number and dosages vary for types and acuity of the cancer but in most cases, the radiation therapy treatments are completed within 9 weeks, which allows for enough time to include the planning phase and any immediate follow-up.

National Medicare claims data show that roughly 55% of radiation therapy episodes between January 1, 2013 and December 31, 2015 were to treat breast cancer (20.4%), lung cancer (20.0%), or prostate cancer (15.0%). Non-melanoma skin cancer (6.3%), head and neck cancer (5.5%), and lower gastrointestinal (GI) cancer (4.3%) were also commonly treated with radiation.<sup>45</sup> This is consistent with the selection of the most frequent cancers types in the Maryland-specific CCW Data:

- Breast
- Prostate
- Lung
- Head and Neck
- Bone Metastasis

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<sup>45</sup> Centers for Medicare & Medicaid Services (CMS), "Report to Congress: Episodic Alternative Payment Model for Radiation Therapy Services", pg. 5.

- Brain Metastasis

As for the modality of treatment for each cancer, there are three primary types of radiation therapy: external beam radiation therapy (EBRT), internal radiation therapy (brachytherapy), and infused radiopharmaceuticals.<sup>46</sup>

External-beam radiation therapy is commonly furnished by a linear accelerator (LINAC) machine from outside the body in the form of photon beams (either x-rays or gamma rays). Proton therapy is a type of EBRT that uses protons generated by a cyclotron or synchrotron. Patients usually receive EBRT in daily treatment sessions, Monday to Friday, over the course of several weeks. The number of treatment sessions and total radiation dose depend on many factors, including the specific cancer treated, individual patient characteristics, and available clinical evidence. The techniques for furnishing EBRT include CRT, IMRT, IGRT, Tomotherapy, SRS, SBRT, proton beam therapy, and electron beam therapy.<sup>47</sup>

Another type of radiation therapy treatment is internal radiation therapy or brachytherapy, which entails placing a radioactive isotope sealed inside a tiny seed (pellet) in the patient's body next to the cancer cells. These isotopes naturally decay and emit radiation that damages nearby cancer cells. Interstitial brachytherapy uses a radiation source placed within tumor tissue such as within a prostate tumor. Intra-cavity brachytherapy uses a radiation source placed within a surgical cavity or body cavity near the tumor such as a chest cavity. Brachytherapy techniques include high dose rate brachytherapy (HDR) and low dose rate (LDR) brachytherapy.<sup>48</sup>

A third major type of radiation therapy treatment is radiopharmaceutical therapy, which uses a radioactive substance given by mouth or into a vein, which can target cancer throughout the body. For example, radioactive iodine is often used to treat certain types of thyroid cancer, because thyroid cells naturally take up iodine.<sup>49</sup>

Since one of the purposes of this study was to compare costs between sites of service, we narrowed this population down further to create a better comparison:

1. Focused on the top 6 cancers by diagnosis where volumes were more likely to create valid comparisons;
2. Focused only on cases where a beneficiary only had one episode of treatment for a single cancer type. As multi-episode, multi-cancer cases are likely more complex, excluding them from the studied cost increases the comparability across places of service.
3. There are a number of situations where a beneficiary can begin the radiation oncology process and have a planning session with a Radiation Oncologist but never receive any

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<sup>46</sup> National Cancer Institute Radiation (2013) Therapy for Cancer. Available at: <https://www.cancer.gov/about-cancer/treatment/types/radiation-therapy/radiation-fact-sheet#q8>.

<sup>47</sup> CMS, "Report to Congress: Episodic Alternative Payment Model for Radiation Therapy Services", pg. 6.

<sup>48</sup> Ibid, pg. 7.

<sup>49</sup> Ibid. pg. 7.



radiation oncology treatment. These cases were excluded as they are comparatively low cost and can distort cost per case comparisons.

4. As the comparison was done at a cancer type and modality level (eg. IMRT, CRT, etc.), certain small volume combinations were lost due to CMS restrictions on the data source. As these are by definition small volume cells, they were not useful for the site of service comparison anyway.

Table 10 below displays the types of cancers by highest cost. For this analysis we chose the top 6 cancers below.

**Table 10. Maryland Radiation Oncology Cost by Cancer Type**

Cancer Type	Radiation oncology costs
PROSTATE	\$ 47,438,513
BREAST	\$ 32,634,628
LUNG	\$ 32,306,918
HEAD AND NECK	\$ 12,201,650
BONE METASTASIS	\$ 7,498,053
BRAIN METASTASIS	\$ 6,358,000
SKIN	\$ 4,935,857
UTERUS	\$ 4,387,299
ESOPHAGUS	\$ 4,192,823
COLORECTAL - RECTAL	\$ 3,948,049

Table 11 presents a summary of the Medicare beneficiary spending on radiation Oncology in 2016 and 2017.

**Table 11. Radiation Oncology Spending for Maryland MC FFS Beneficiaries, 2016 and 2017 (1)**

	Unique Beneficiaries	Episodes (2)	Medicare Spending (in 000's) (5)	Cost per Unique Beneficiary	% of Radiation Oncology Spend
Total spend on Radiation Oncology (3)	11,395	12,171	\$190,453	\$16,714	100%
Total spend on Radiation Oncology for 6 Main Cancers	7,956	8,484	\$138,438	\$17,400	73%
Spend on Single Episode, Single Cancer Beneficiaries	6,900	6,900	\$123,791	\$17,941	65%
Non-Suppressed Spend on Single Episode, Single Cancer Beneficiaries	6,132	6,132	\$112,013	\$18,267	59%
Total spend on all services during a radiation oncology episode (4)	11,395	12,171	\$388,175	\$34,065	204%
Total spend on non-radiation oncology services during a radiation oncology episode	11,395	12,171	\$197,722	\$17,352	104%

- 1 Cases starting in CY16 and CY17, run out through March 2018
- 2 An episode is defined as the 90-days following a Radiation Oncology Treatment Planning Episode
- 3 Radiation Oncology was defined using a set of CPT codes derived from a list published by ACRO. Certain modifications were made to the list to incorporate spending that is part of Radiation Oncology but which ACRO does not include because ACRO focuses on spending by Radiation Oncologists.
- 4 Include all medical spend during the defined 90-day window of a Radiation Oncology Episode
- 5 Reflects spending by Medicare only, out-of-pocket costs to the beneficiary are addressed separately.

Total spending for Maryland Medicare fee-for-service beneficiaries in 2016 and 2017 for radiation oncology related services was approximately \$190 million (or \$95 million per year) at an average cost of \$16,714 per episode. Spending on the top 6 cancers in our analysis represented 73% of all spending on radiation oncology.

We also calculated the total medical spend for beneficiaries while they were in a 90-day radiation oncology treatment episode. An additional \$197 million of spending was provided on non-radiation oncology services. This would include both other cancer treatment costs as well as unrelated medical spending. The average total cost of care (both radiation therapy related and non-radiation therapy services) was \$34,065 per 90-day episode. Since the average Maryland Medicare beneficiary incurs approximately \$11,700 of cost per year, this subset of beneficiaries is clearly more acute than average of all beneficiaries, and they incur higher costs for their radiation oncology and other services.

Different cancers and treatment modalities have different costs. Therefore, any comparison of site of service costs must consider the mix of cancers treated and the modalities used. As shown in Table 12, the cost per episode (including member cost share) can range from less than \$10,000 for bone and brain metastasis to over \$35,000 for prostate IMRT. It is important to

note that the site of service categories in this study are based on how they were coded and reported to Medicare, so there could be some inconsistencies.

**Table 12. Studied Radiation Oncology Spending by Cancer and Modality, 2016 and 2017**

Cancer	Modality	Episodes by Site of Service (1)			Total Medicare Spending (in 000's)	Total Beneficiary Spending	Total Spending (in 000's)	Cost per Episode	% of Total Studied
		Hospital	Hospital-Owned Freestanding	Non-Hospital Owned Freestanding					
BONE METASTASIS	CRT	351	122	36	\$3,561	\$964	\$4,525	\$8,890	3%
BRAIN METASTASIS	CRT	198	70	12	\$2,054	\$560	\$2,614	\$9,337	2%
BREAST	IORT	75	-	-	\$356	\$95	\$450	\$6,004	0%
BREAST	IMRT	131	52	32	\$4,465	\$1,207	\$5,672	\$26,381	4%
BREAST	CRT	1,087	515	113	\$24,910	\$6,774	\$31,684	\$18,474	22%
<b>Total Breast</b>		<b>1,293</b>	<b>567</b>	<b>145</b>	<b>\$29,730</b>	<b>\$8,076</b>	<b>\$37,806</b>	<b>\$18,856</b>	<b>27%</b>
HEAD AND NECK	IMRT	264	68	31	\$9,556	\$2,593	\$12,150	\$33,470	9%
LUNG	PBT	-	-	24	\$727	\$186	\$913	\$38,033	1%
LUNG	CRT	259	84	37	\$4,520	\$1,226	\$5,746	\$15,120	4%
LUNG	SBRT	389	63	9	\$8,658	\$2,381	\$11,039	\$23,947	8%
LUNG	IMRT	351	51	43	\$11,635	\$3,171	\$14,806	\$33,271	10%
<b>Total Lung</b>		<b>999</b>	<b>198</b>	<b>113</b>	<b>\$25,540</b>	<b>\$6,963</b>	<b>\$32,503</b>	<b>\$24,812</b>	<b>23%</b>
PROSTATE	BRACHYTHERAPY	55	150	53	\$2,314	\$603	\$2,917	\$11,307	2%
PROSTATE	IMRT	812	443	152	\$39,258	\$10,625	\$49,883	\$35,454	35%
<b>Total Prostate</b>		<b>867</b>	<b>593</b>	<b>205</b>	<b>\$41,572</b>	<b>\$11,229</b>	<b>\$52,800</b>	<b>\$31,712</b>	<b>37%</b>
<b>Total</b>		<b>3,972</b>	<b>1,618</b>	<b>542</b>	<b>\$112,013</b>	<b>\$30,385</b>	<b>\$142,399</b>	<b>\$23,222</b>	
<b>% of Episodes</b>		<b>65%</b>	<b>26%</b>	<b>9%</b>					

Source: CCW data

The Table above represents a subset of the total \$190.5 million in total radiation oncology spending due to CMS data and cell size restrictions. The total of the analyzed data is the \$112 million in non-suppressed charges. Consistent with data from CMS presented earlier in the report, 65% of radiation oncology episodes were performed in a hospital outpatient center, while 35% were done in freestanding facilities. As expected given the number of non-hospital owned centers in the State, only 9% of studied radiation oncology episodes were performed at non-hospital owned freestanding centers

The most expensive per episode costs are found in prostate care, \$31,712 per episode, and lung cancer with \$24,812 per episode. In line with national studies, the most expensive modality by cancer type is IMRT for prostate care which averages \$35,454 per episode, but head and neck related IMRT is close behind with \$33,470 per episode.

To compare cost by site of service, the focus was placed on specific modality/cancer combinations. To examine modality costs, we reviewed combinations that met two criteria: (1) reflect a significant percent of total spend; and (2) have sufficient volumes in all 3 site of service buckets to allow for a valid conclusion.

Tables 13A and 13B examine this in more detail for breast and prostate cancer where volumes are significant and there is considerable variation in treatment.

**Table 13A. Breast CRT Cost by Site of Service**

Site of Service	% of Cases	Total Avg. Cost	Total Ratio of Breast CRT Avg.	Beneficiary % of Cost	% of Average FSF Cost (1)
Hospital	63%	\$22,302	121%	22%	188%
Hospital-Owned Freestanding	30%	\$11,593	63%	20%	98%
Non-Hospital Owned Freestanding	7%	\$13,018	70%	20%	110%
Total	100%	\$18,474	100%	21%	156%

(1) FSF is the combination of hospital-owned and non-hospital-owned freestanding facilities

**Table 13B. Prostate IMRT Cost by Site of Service**

Site of Service	% of Cases	Total Avg. Cost	Total Ratio of Prostate IMRT Avg.	Beneficiary % of Cost	% of Average FSF Cost (1)
Hospital	58%	\$43,900	124%	22%	183%
Hospital-Owned Freestanding	31%	\$23,284	66%	20%	97%
Non-Hospital Owned Freestanding	11%	\$25,797	73%	20%	108%
Total	100%	\$35,454	100%	21%	148%

(1) FSF is the combination of hospital-owned and non-hospital-owned freestanding facilities

Examining the cost differential by site of service for breast CRT and prostate IMRT produces very similar results. Total hospital outpatient costs are about 185% of freestanding facility costs (188% for breast CRT and 183% for prostate IMRT), or about 120% the average across all sites of service. In both cases, hospital outpatient facilities retain about 60% of the volume (63% and 58%).

This analysis also highlights that the beneficiary portion of the spending represents about 21% of total spending. We found that this cost-share is consistent across all sites of service for the radiation oncology cases analyzed. However, as indicated in this report, between 75% and 80% of beneficiary costs are covered by a third-party (secondary insurance, Medicaid, etc.).

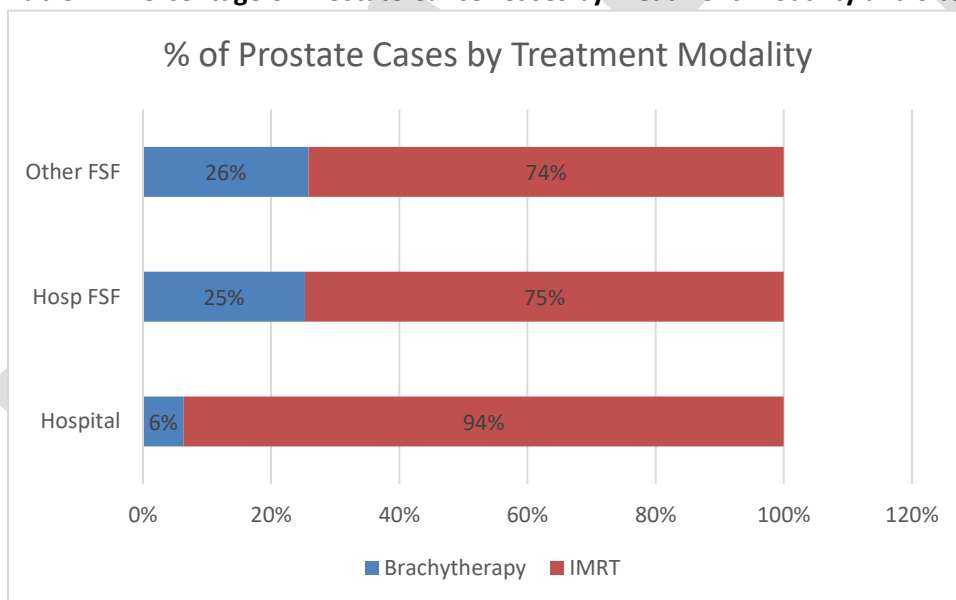
While hospital-owned freestanding facilities are marginally cheaper in both scenarios than non-hospital-owned freestanding facilities, the difference is small and it is not conclusive that it is a function of site of service as opposed to other variations.

For the purpose of this report, the findings above highlights the point that further shifts from freestanding facilities to hospital outpatient centers can have a negative impact on the total cost of care, especially since these patients tend to use more resources than the average of all Medicare patients for all of their services.

As several of the GAO studies have pointed out, even if freestanding facilities are less expensive for a specific modality, the savings could be eroded if facilities are disproportionately using more expensive treatment options, regardless of clinical necessity. For example, CRT is clinically indicated for most breast cancer cases, and the literature does not tend to support using IMRT as a standard of practice for many of these types cases. Therefore, if IMRT is used more heavily by a provider at a particular site of service compared to the overall state average by site of service, it may indicate providers in a particular site of service are overusing more expensive treatment options, potentially for reimbursement purposes. Since this was the subject of many national reports, we used our Maryland data to attempt to determine if there are practice variations in choosing a modality based on the site of service.

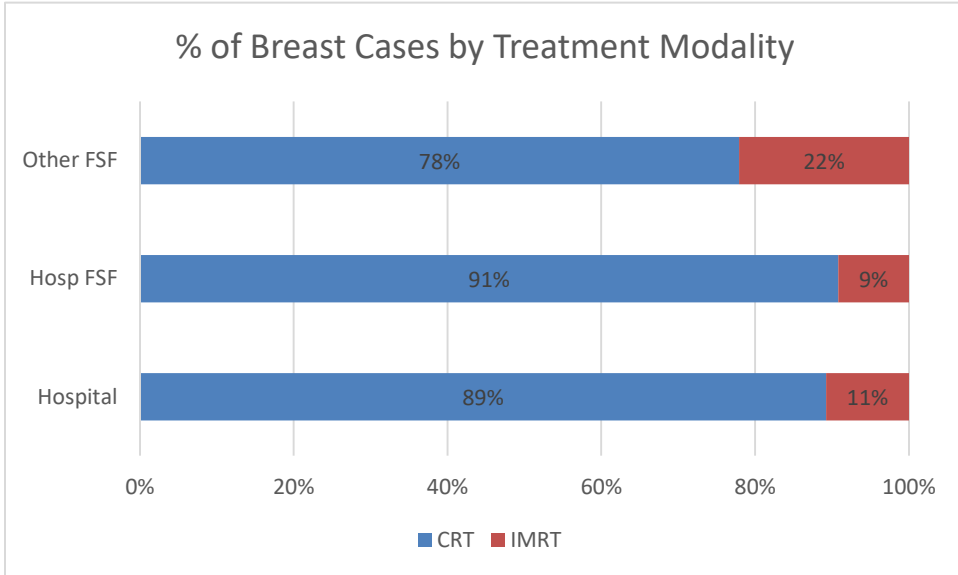
Tables 14, 15, and 16 show the modality usage by site of service for prostate, breast, and lung cancers. It is important to note that our data does not present all modality options but only the most prominent ones. For example, for prostate cancer, 7% of cases have used a modality of CRT, however, since the number of cases was extremely low in some sites of services, these data were suppressed in our analysis.

**Table 14. Percentage of Prostate Cancer Cases by Treatment Modality and Site of Services**



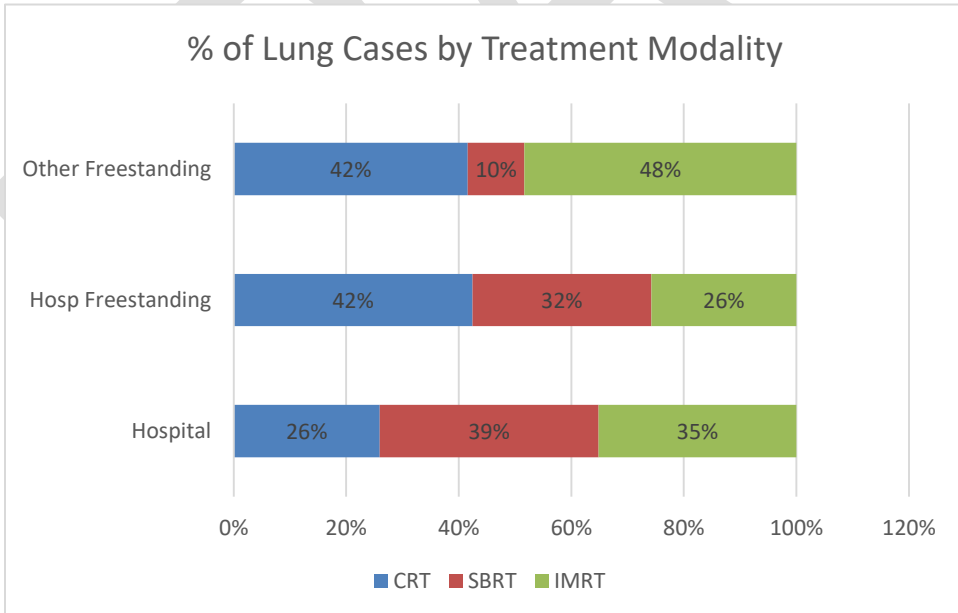
When comparing the use of Brachytherapy versus IMRT for prostate cancer, non-hospital owned freestanding facilities used IMRT 74% of time compared to 75% at hospital-owned freestanding facilities, and 94% for hospital outpatient departments. The per-episode cost of IMRT for prostate cancer is \$35,454 compared to \$11,307 for Brachytherapy. Hospital outpatient departments, therefore, have a greater tendency to use the more expensive IMRT modality for prostate cancer than freestanding facilities, which is one of the drivers of the cost difference shown in Table 13B - \$43,900 average cost at a hospital facility versus approximately \$24,000 when performed in a freestanding facility.

**Table 15. Percentage of Breast Cancer Cases by Treatment Modality and Site of Services**



In breast cancer cases, non-hospital owned freestanding centers used IMRT twice as frequently as hospital owned facilities, however, they represent a small number of cases overall.

**Table 16. Percentage of Lung Cancer Cases by Treatment Modality and Site of Services**



For lung cancer, IMRT and SBRT combined account for between 58% and 74% of cases, with hospital outpatient facilities showing the highest combined use. Freestanding facilities utilize CRT more frequently and SBRT less frequently than hospital outpatient departments. Non-

hospital-owned freestanding facilities use IMRT for lung cancer, the most expensive service, more frequently than their counterparts.

When looking at the data for breast and lung cancer, non-hospital owned freestanding centers used IMRT more frequently than hospital-owned facilities, however the cell size for these modalities at non-hospital facilities are small. Secondly, it is notable that hospital outpatient centers use IMRT for prostate cancer, the most costly radiation therapy modality, at a greater rate than freestanding facilities. Further examination would be required to determine the reason for these trends in services. Regardless, this study shows that usage of IMRT is a driver of the higher average cost for prostate cancer services at hospital outpatient centers.

In summary, Maryland Medicare data show that radiation therapy services are more expensive on a per-episode basis when performed at a hospital outpatient facility. As illustrated in Table 17, this holds true for each of the cancer types that we have analyzed. It is important to note that of the freestanding facilities, the radiation therapy episodes we examined are more expensive when performed at a non-hospital owned freestanding facility – \$21,499 versus \$14,565 at a hospital owned freestanding facility.

**Table 17. Total Single Episode Cancers by Site of Service**

<b>Cancer Type</b>	<b>Hospital Outpatient</b>	<b>Hospital Owned Freestanding</b>	<b>Non-Hospital Owned Freestanding</b>
BONE METASTASIS	\$8,814	\$6,396	\$6,756
BRAIN METASTASIS	\$12,898	\$6,688	\$6,637
BREAST	\$22,343	\$11,883	\$14,525
HEAD AND NECK	\$36,069	\$20,464	\$28,425
LUNG	\$27,753	\$12,639	\$20,946
PROSTATE	\$37,056	\$19,755	\$27,100
<b>TOTAL</b>	<b>\$26,188</b>	<b>\$14,565</b>	<b>\$21,499</b>

## Value-based Oncology Models

### Nationally

In an effort to achieve transformation of the health care system, CMS has been promoting value-based payment models across the health care system, moving away from fee-for-service payment that includes volume-based incentives. Value-based models are designed to encourage all healthcare providers to deliver high quality care at lower total costs. The stated goals for value-based purchasing by CMS are:

- Financial Viability of the Payment System;
- Payment Incentives linked to quality and efficiency;
- Joint Clinical and Financial Accountability of Physicians and Providers;
- Effective and Evidence-based care;
- Ensuring Access;
- Safety and Transparency;
- Smooth Transition and Care Coordination; and
- Electronic Health Records.

Since the implementation of the Affordable Care Act (ACA), CMMI (Innovation Center) has been supporting the development and testing of innovative health care payment and delivery models. While value-based models have been operating for various medical disciplines such as primary care, oncology services have only recently entered into this environment. Until recently, CMS has not permitted Maryland to participate in such models, as CMS wanted assurances that there would be no overlaps with the State's current global budget payment structure. In recent months, CMS has permitted Maryland to begin to look at Maryland participating in certain value-based models to ensure that, under the Total Cost of Care All-Payer Model, there could be adequate incentives in place for non-hospital providers to provide value-based and transformative care.

Due to the prevalence and cost of cancer care, the Innovation Center has been studying the cost, utilization, and quality of cancer treatment, which includes the use of radiation therapy. Below is a summary of the existing and potential national models that could bring value-based oncology and/or radiation therapy services to Maryland.

#### Oncology Care Model (OCM)

The Oncology Care Model (OCM) is the first broadly implemented oncology value-based model initiated by CMS. It is a 5-year model that began on July 1 2016. It is intended to provide incentives for practices to address the complex needs of chemotherapy patients in a comprehensive and patient-centered manner.

The Model currently consists of 184 practices across the country, which include 6,500 practitioners, 150,000 unique beneficiaries, and 200,000 episodes per year. There are currently 13 commercial payers participating in the model as well, making this a multi-payer model. The Oncology Model incorporates a two-part payment system for participating practices, creating incentives to improve the quality of care and furnish enhanced services for beneficiaries who undergo chemotherapy treatment for a cancer diagnosis. The two forms of payment include a per-beneficiary Monthly Enhanced Oncology Services (MEOS) payment for the duration of the episode and the potential for a performance-based payment for episodes of chemotherapy care. The \$160 MEOS payment assists participating practices in effectively managing and coordinating care for oncology patients during episodes of care, while the potential for



performance-based payment incentivizes practices to lower the total cost of care and improve care for beneficiaries during treatment episodes.

The Oncology Care Model focuses on Medicare FFS beneficiaries receiving chemotherapy treatment and includes the spectrum of care provided to a patient during a six-month episode that begins with chemotherapy. OCM participants are Medicare-enrolled physician groups (including hospital-based practices) that furnish chemotherapy treatment. In addition, OCM participating practices must:

- Provide enhanced services, including:
  - The core functions of patient navigation;
  - A care plan that contains the 13 components in the Institute of Medicine Care Management Plan outlined in the Institute of Medicine report, *“Delivering High-Quality Cancer Care: Charting a New Course for a System in Crisis”*;<sup>50</sup>
  - Patient access 24 hours a day, 7 days a week to an appropriate clinician who has real-time access to practice’s medical records; and
  - Treatment with therapies consistent with nationally recognized clinical guidelines.
- Use data to drive continuous quality improvement; and
- Use certified electronic health record technology.

CMS utilizes clinical data and quality measures as a key mechanism to verify clinical improvements, assess patient health outcomes and appropriate coordination of care, and ensure continued quality of care for Medicare beneficiaries. CMS tracks participant performance on multiple quality domains using patient- and practice-reported measures as well as claims-based measures.

Applicants had the option to choose a one-sided or two-sided risk model. The one-sided risk model provides rewards but lower payment incentives while the two-sided risk model includes both reward and penalties, but the payment incentives are greater. All participants chose the one-sided risk model. However, regardless of the type of model chosen, all models are required to shift to a two-sided risk model in three years.

Until recently, CMS has not permitted Maryland to participate in such models, as they wanted to determine how we could ensure that there are no overlaps with Maryland’s current global budget payment structure. In recent months, CMS has permitted Maryland to begin to look at Maryland joining such value-based models to ensure that under the Total Cost of Care Model

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<sup>50</sup> Institute of Medicine, *Delivering High-Quality Cancer Care: Charting a New Course for a System in Crisis*, 2013

there could be adequate incentives in place for non-hospital providers to provide value-based and transformative care.

#### Bundled Payment for Care Improvement Advanced (BPCIA)

CMS issued a request for applications on January 9, 2018 for the Bundled Payment for Care Improvement Advanced. The goal of this model is to support providers in investing in practice innovation, care redesign, enhanced care coordination, and adoption of best practices. It piggybacks on the former Bundled Payment for Care Improvement program, but the new Model qualifies as an Advanced Alternative Payment Model (Advanced APM) which potentially qualifies providers for MACRA benefits. The program will start on October 1, 2018.

It entails a single payment and risk track for certain clinical episodes triggered by an inpatient stay or outpatient procedure with an episode period of 90 days. There are 29 inpatient clinical episodes and 3 outpatient clinical episodes. The outpatient episodes include Percutaneous Coronary Intervention (PCI), Cardiac Defibrillator, and Back and Neck (except spinal fusion). Under the current model none of the approved episodes are oncology based.

The episode is based on total cost of care for all items and services furnished to a participating patient, including outlier payments. Payment will also be linked to quality under a pay-for performance methodology. Participants will take on downside risk under this model. CMS aims to avoid duplicating payments with other CMS models such as the Oncology Care Model or under an Accountable Care Organization.

While this model currently does not include oncology services, Maryland could provide an opportunity in the future to expand the BPCIA model concept to include oncology or radiation therapy services if desired (see discussion of HSCRC model exploration below).

#### Radiation Therapy Model

The OCM model discussed above is a chemotherapy triggered model which, while it could have a positive impact on the cost and quality of cancer care in the State if implemented, does not directly address the primary issue considered in this study – radiation therapy. The Innovation Center is currently considering a model where the evaluated episode is triggered by a radiation therapy service. It is possible that the model could be operational in the next 2-3 years.

The Patient Access and Medicare Protection Act (PAMPA) (P.L. 114-115) directed the Secretary of Health and Human Services to submit a report to Congress on the development of an episodic alternative payment model (APM) for Medicare payment for radiation therapy services furnished in non-facility settings.<sup>51</sup> This report was submitted to Congress on November of 2017 entitled “Episodic Alternative Payment Model for Radiation Therapy Services.” The report recommended that CMS implement an Episodic Alternative Payment Model for Radiation Therapy Services.

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<sup>51</sup> Patient Access and Medicare Protection Act Pub. L. No. 114-115, 129 Stat 3131 (2015).

The report states that an episodic payment model for radiation therapy services could incentivize the use of clinical guidelines. An adherence to clinical guidelines may be measured and rewarded through the use of standardized, evidence-based, and well-tested clinical quality measures, or monitored through claims data and/or site visits.<sup>52</sup>

According to the report, “radiation therapy furnished in the freestanding and outpatient hospital settings has historically been paid on a per-service basis through the Physician Fee Schedule or the Hospital OPPS, respectively. Under the current fee-for-service system, some stakeholders have indicated there may be a financial incentive to provide more technically complex services. Both incentives may generate higher Medicare expenditures. An episode payment model offers the opportunity to shift incentives to focus on higher quality, more cost-effective care.”<sup>53</sup>

“For external beam radiation, the total radiation dose is typically split into daily fractions (i.e., the total radiation amount is divided into multiple treatments, which are known as fractions). Because Medicare pays on a per-fraction basis, there is an incentive to furnish more, rather than fewer, fractions... Modifying payment under an episode payment model could change the incentives and encourage physicians to pick higher-value modalities and furnish fewer fractions, where appropriate.”<sup>54</sup>

If, in fact, a radiation therapy model were adopted by CMS or Maryland, it would be essential to align the two models to ensure that they are not doubling incentives. A Medicare analysis showed that 31% of radiation therapy patients received chemotherapy 30 days before or 90 days after radiation. Since the OCM model episode is 6 months long, these treatments would be captured in the OCM episode. Anecdotal information shows that across all relevant cancers, approximately 15-20% of all chemotherapy patients receive radiation therapy concurrently. Nonetheless, the report indicated that an OCM and radiation therapy model could run concurrently with appropriate alignment.

#### Overview of Models

While these are the models in existence or being considered today, we should not be limited to considering only these models. CMS is and will continue to consider models that are intended to reduce cost, improve quality, and move the health care system to one that is patient-centered. Maryland should consider any new oncology models that are approved in the future as well.

However, it is important to note that since Maryland’s hospitals are considered an alternative payment model where there is two-sided risk (both upside and downside risk), it is important that adoption of these types of physician models in Maryland also have two-sided risk.

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<sup>52</sup> CMS, “Report to Congress: Episodic Alternative Payment Model for Radiation Therapy Services”, pg. 17.

<sup>53</sup> Ibid, pg. 17.

<sup>54</sup> Ibid, pg. 19.

All of the models discussed in this section could have value under the Total Cost of Care All-Payer Model in Maryland, but it is important for the HSCRC to vet these and any new models to ensure that there is continued value to the new TCOC Model. For such models to fit appropriately under the Maryland Model, it is important that costs and quality data continue to be tracked and evaluated, and that participation agreements are reviewed and approved (whether by CMS or Maryland) as required in the existing Care Redesign Programs (see below). In all of the models shown above, Medicare tracks and evaluates the participants to ensure that they comply and meet the goals of the program.

One observation regarding the aforementioned oncology models is that the quality metrics weigh heavily on process measures. Outcome data for most cancers requires long performance periods, which creates challenges to utilize outcome measures for rewards. However, it is important for CMS and HSCRC to consider whether certain outcome measures could be used in the evaluation process and consider how such measures can aid in improvement of Maryland's overall quality requirements under the All-Payer Model (i.e., Readmissions, Potentially Avoidable Utilization, etc.).

### Maryland

In an effort to expand the GBR incentives in Maryland's All-Payer Model, the State, with the approval of CMS, initiated a Care Redesign initiative. This initiative permits hospitals that are conveners in Medicare and HSCRC approved value-based payment models to share data, resources, and savings with both hospital and non-hospital providers. In 2017, the General Assembly adopted Chapter 226 (see Appendix III) to make it clear that the compensation arrangements and sharing of resources under these pre-approved and monitored models do not violate the Maryland self-referral law.

This legislative change cleared the way for the HSCRC, in conjunction with CMS, to implement its Care Redesign Program. In response to Maryland stakeholders' requests for greater provider alignment and transformation tools under the All-Payer Model, the State proposed a Care Redesign Amendment ("Amendment") to the All-Payer Model Agreement. The Amendment aims to modify the All-Payer Model by supporting:

- Effective care management and population health activities;
- Improvement in care for high and rising risk populations;
- Efforts to provide high quality, efficient, well-coordinated episodes of care;
- Hospitals and their Care Partners in monitoring and controlling Medicare beneficiaries' Total Cost of Care (TCOC) growth; and
- The next steps toward delivery system transformation

As of January 30, 2018, eighteen hospitals are participating in Care Redesign Programs and the number of participants is expected to continue to rise. The Amendment proposed two

voluntary, hospital-led programs, which align hospitals and their care partners through common goals and incentives. The two programs are known as (1) The Hospital Care Improvement Program (HCIP), and (2) Complex and Chronic Care Improvement Program (CCIP).

The HCIP is implemented by participant hospitals and hospital-based providers and aims to:

- Improve inpatient medical and surgical care delivery;
- Provide effective transitions of care;
- Ensure an effective delivery of care during acute care events, beyond hospital walls;
- Encourage the effective management of inpatient resources; and
- Reduced potentially avoidable utilization with a byproduct of reduced cost per acute care event.

Examples of categories of care redesign interventions in the HCIP include: care coordination, discharge planning, clinical care, patient safety, patient and caregiver experience, population health, and efficiency and cost reduction. Care Partners who choose to participate may receive incentive payments based on reducing internal costs through a reduction in unnecessary utilization and resources, efficient practice patterns, and improved quality.

The CCIP is implemented by participant hospitals, and community providers and practitioners; and aims to:

- Strengthen primary care supports for complex and chronic patients in order to reduce avoidable hospital utilization;
- Enhance care management through tools such as effective risk stratification, health risk assessments, and patient-driven care profiles and plans; and
- Facilitate overall practice transformation towards person-centered care that produces improved outcomes and meets or exceeds quality standards.

Examples of categories of Care Redesign Interventions in the CCIP include: care management, workforce capacity development, and health information technologies. In the CCIP, participant hospitals deploy care management resources and technology that align and support community-providers who work with the participant hospital. Care partners who choose to participate will have access to care management tools and resources targeted to high utilizer and rising risk patients that will support implementation of care plans, provide care coordination, and help manage care transitions. Participation in the CCIP is also tailored to leverage the Medicare Chronic Care Management (CCM) fee. Care partners who choose to participate may receive incentive payments from hospitals based on defined activities that improve quality of care and reduce potentially avoidable utilization of hospitals.

As discussed above, Maryland to date has not been permitted to participate in value-based models approved by CMS nationally (except for the HCIP and CCIP). However, with recent CMS clearance, the HSCRC has been exploring potential new models since it is essential to ensure

that non-hospital providers are operating with similar incentives to hospitals operating under the new TCOC Model. To that end, the HSCRC has formed a Stakeholder Innovation Group (SIG) to identify the most promising areas for development and implementation of alignment models and population health activities.

The Stakeholder Innovation Group has indicated an initial preference for the development of additional Advanced Alternative Payment Models (AAPM). The enhanced Total Cost of Care Model allows for development of care delivery and payment programs in two major categories:

1. **Care Redesign Programs** which must include a hospital and are funded out of global budgets; and New Model Programs, which are not directly associated with hospitals and are funded by CMS or some other funding source.
2. **New Model Programs**, similar to the Maryland Primary Care Program, require a longer approval time (likely 1-2 years), while Care Redesign Programs, similar to the Hospital Care Improvement Program, require less time.

The calendar established by CMS requires any new programs to be initiated for approval in June of 2018. Currently, the SIG is exploring options for development of a Maryland version of BPCI Advanced, which is one of several approved AAPM Models not currently available to Maryland providers. Opportunities to develop these programs with either a hospital or a physician group practice convener are under consideration.

## Conclusion

Based on the available information as summarized above, HSCRC staff concludes that it would be imprudent and potentially damaging to the Maryland Total Cost of Care All-Payer Model if self-referral of radiation therapy, CT, and MRI services were permitted under the self-referral law in the current fee-for-service environment. Various studies have shown that the incentives under fee-for-service arrangements can and have led to increasing volumes of services under the current reimbursement structure. Most of these findings revolved around diagnostic services and Intensity-Modulated Radiation Therapy (IMRT); however, the risks are too high in Maryland to assume that the same results would not extend beyond these services in a fee-for-service payment system. As shown in the Maryland data, radiation therapy is a high cost service; therefore, fluctuations in volume and cost from the base year for the total cost of care calculation can impact the total cost of care calculation and create strain on the requirements of the Total Cost of Care All-Payer Model. This is illustrated in Table 11, which shows that the average total cost of care (both radiation therapy related and non-radiation therapy related services) was \$34,065 during a 90-day episode across all cancers. The average Maryland Medicare beneficiary incurs approximately \$11,700 of cost in an entire year.

As stated in the legislative request, the ramifications to the State and the health care system of failing the total cost of care model are great. The legislative request states: “if Maryland loses the waiver, we simply cannot absorb the costs associated with the impact of a \$2.3 million loss in Medicare and Medicaid payments to the Maryland health care system every year.” Clearly the risks are high.

However, under the auspices of value-based alternative payment models, this discussion could also lead to positive opportunities for total cost of care savings in Maryland. In 2017, the General Assembly adopted legislation to provide an exemption in the self-referral law for an alternative payment model approved by the federal Centers for Medicare and Medicaid Services, whether it includes only Medicare Beneficiaries or both Medicare Beneficiaries and non-Medicare beneficiaries. This has permitted Maryland to consider implementing alternative payment models that go beyond just hospital services under its Care Redesign initiative. However, the in-office ancillary provision prohibiting self-referrals of radiation therapy, CT and MRI did not change.

This study shows that radiation therapy services are more expensive when conducted in a hospital outpatient department (\$26,188 per episode across all cancer types) than in a freestanding facility, whether owned by a hospital (\$14,565) or not owned by a hospital (\$21,499). This realization can lead to strategic thinking around how to best provide care at the most reasonable cost under an innovative value-based double sided risk model.

Heretofore, Maryland has not been permitted by CMS to participate in national models such as the Oncology Care Model (OCM) and the Bundled Care for Performance Improvement Advanced (BPCIA), limiting Maryland’s options in allowing physicians to participate in MACRA eligible programs that are not hospital-based. Currently only hospitals can be a convener under a care redesign alternative payment model in Maryland. With CMS’ clearance, HSCRC is now considering implementing models that would permit non-hospital providers to convene a value-based model. The existing self-referral law would prohibit radiation therapy providers from being conveners, or a medical oncology practice from being a convener, if it wishes to collaborate with a radiation therapy practice that it owns. Under a value-based Advanced Alternative Payment Model (Advanced APM), the volume incentives are removed, mitigating the aforementioned risks of altering the self-referral law under a fee-for-service model.

It is important to note that collaborations between non-hospital-based medical oncology practices and radiation therapy practices work well today and, if approved by the HSCRC and CMS, such arrangements can continue to work well under an Advanced Alternative Payment Model. However, the existing self-referral law would still restrict certain integrated community oncology service providers from referring within their group under an advanced alternative payment model even though the incentive to drive volume or increase the cost of the service is no longer present.

Various studies have shown the shifts of care from physician offices to hospital-owned care. This shift has occurred in Maryland too. As stated above, there are many reasons for this shift,

including the incentive for hospitals to establish networks to bring community physicians under the same incentives that are encumbered by hospitals. These shifts are causing growing hospital financial losses for physician services and the concentration of the physician market at hospitals. The HSCRC collects data on the amount of unregulated losses that are incurred by hospitals each year. A majority of these losses relate to subsidizing and paying for physician services even after reimbursements are incurred. The burden of physician losses has grown significantly over the past 10 years.

Table 18 shows that unregulated losses for physician services have grown between 2008 and 2017 by 165% - from \$219 million to \$581 million, respectively. These losses reflect the net losses after hospitals collect reimbursement related to the employed physicians' services. In 2007, physician losses represented 1.95% of net patient revenue. It now represents 3.84% of net patient revenue. Net physician related losses have grown 165% since 2008. While these losses are not entirely caused by hospitals acquiring physician services, it is, however, indicative of the financial burden that hospitals incur as the shift from physician offices to hospitals continues. Frequently when hospitals make requests to the Commission for rate increases, physician losses are frequently part of the reason for the subject hospital's financial pressure.

**Table 18. Gross in Maryland Hospital Physician Losses, FY 2008-2017**

				<b>Growth</b>
	<b>FY 2008</b>	<b>FY 2011</b>	<b>FY 2018</b>	<b>FY 08-18</b>
Net Patient Revenue (in 000's)	\$11,224,501	\$12,666,545	\$15,158,464	35.0%
Physician Losses (in 000's)	\$219,236	\$333,473	\$581,800	165.4%
Physician Losses as % of Net Patient Revenue	1.95%	2.63%	3.84%	

Source: FYs 2008, 2011, and 2018 HSCRC Disclosure Reports and Part B Data Set

As outlined in this report, CMS has developed and is continuing to develop models that can lessen the need for hospitals to acquire physician practices in order to align the financial interests of physicians with the All-Payer Model incentives. For years, HSCRC staff has maintained that a healthy provider market is one that has both hospital-based and non-hospital community-based physicians and providers working together for better patient care, and that it makes financial sense for hospitals to collaborate (not acquire) with community providers to the greatest extent practicable.

It is in the best interests of the Maryland Total Cost of Care All-Payer Model for as many physicians as possible, particularly those who provide high cost services, to participate in an alternative payment model based on value (not volume) that uses the same incentives under which hospitals operate, regardless of the ownership arrangement. Under MACRA, it is also in the best interest of many physician specialties to participate in an Advanced Alternative Payment Model.



Therefore, serious consideration should be given to altering the Maryland Patient Referral Law in a very limited way so that providers of oncological radiation therapy and therapeutic CT services may participate, and/or be conveners, in an Advanced Alternative Payment Model regardless of the ownership arrangement in Maryland. If so desired by the legislature, the following limitations and caveats should be applied to provide maximum protection for the Maryland Total Cost of Care All-Payer Model:

- Provide an exemption under an Advanced Alternative Payment Model (with two-sided risk) approved by CMS whether the model may be applied to only Medicare beneficiaries, or to both Medicare beneficiaries and individuals who are not Medicare beneficiaries.
- The exemption would only apply to patients and physicians participating under these approved models, and only for the period of time that the provider is participating in the approved model.
- Limited to oncological radiation therapy and therapeutic CT services only.
- As other Care Redesign Programs, the Model is vetted by the HSCRC and guided by participate agreements with the State (and the federal government as required), reporting, and evaluation.
- To the extent practicable, utilize as many outcome measures as reasonably possible in the evaluation process.
- Options to expand Models beyond Medicare so that the model is multiple payer or all-payer.

As the Health Services Cost Review Commission and the Maryland General Assembly consider any changes to the Maryland self-referral law, it is important to ensure that the Maryland Board of Physicians possesses the appropriate resources and authority to enforce the existing statute and any changes made to it. While this topic is beyond the purpose of this paper, it is advisable that the HSCRC work with the Board of Physicians to ensure that they are ready to enforce the law and any changes.

In the 2015 MHCC study on the self-referral law, the MHCC and their contractor Discern Health stated that Maryland's self-referral restrictions may prevent providers from testing innovative care delivery models under value-based purchasing arrangements. In addition, in the *Roadmap for Implementing Value Driven Health care in the Traditional Medicare Fee-for-Service Program*,<sup>11</sup> CMS claims that "to support these [value-driven] payment systems, CMS would need to consider appropriate modifications to the physician self-referral rules so that hospitals and other institutional providers may reward physicians for improving quality and efficiency in their

local healthcare delivery settings.”<sup>55</sup> This statement refers to the national self-referral laws that apply to Medicare beneficiaries, which are less restrictive than Maryland’s self-referral law.

This report provides limited and measured options to permit oncological value-based Advanced Alternative Payment Models to take place in Maryland regardless of ownership structure in a manner that ensures that such a change to the Maryland self-referral law is consistent with the underlying goals and principles of the Maryland Total Cost of Care All-Payer Model.

DRAFT

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<sup>55</sup> [https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityInitiativesGenInfo/Downloads/VBPRoadmap\\_OEA\\_1-16\\_508.pdf](https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityInitiativesGenInfo/Downloads/VBPRoadmap_OEA_1-16_508.pdf)

## Appendix I

THOMAS MAC MIDDLETON  
Legislative District 28  
Charles County

Chair  
Finance Committee

Executive Nominations Committee  
Rules Committee  
Legislative Policy Committee  
Spending Affordability Committee  
Senate Chair  
Joint Committee on  
Unemployment Insurance Oversight  
Joint Subcommittee on Program Open  
Space/Agricultural Land Preservation



THE SENATE OF MARYLAND  
ANNAPOLIS, MARYLAND 21401

October 17, 2017

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Mr. Nelson Sabatini  
Chair, Maryland Health Services Cost Review Commission  
4160 Patterson Avenue  
Baltimore, MD 21215

Dear Mr. Sabatini:

I am writing today to respectfully request that the Maryland Health Services Cost Review Commission (HSCRC) study an issue that has been the subject of a number of bills in Annapolis regarding changes to Maryland's self-referral law. As it relates to the jurisdiction of the Finance Committee, I am very concerned that the proposed changes could negatively impact Maryland's All-Payer Model agreement.

Recent legislation has ranged from broader bills impacting self-referral to a more recent proposal for the creation of an "integrated community oncology program". The stated purpose of the bill was to exempt a health care practitioner who has a beneficial ownership interest in radiation therapy equipment, and practices medicine at an integrated community oncology center in the program from general prohibitions against self-referrals by health care practitioners. The bill also would have provided for an evaluation of the new program once established as to how it impacted quality and cost of care and specifically how it would "achieve the goals and milestones of Maryland's all-payer model contract".

I am concerned about this retrospective type of approach because if a new program is already established that does in fact create problems under the State's All-Payer Model agreement, it might be too late to undo the impacts at that point in time. As you know, under Maryland's unique all-payer system, the state is required to reduce inappropriate utilization and place strict limits on health care spending, both in and outside of the hospital setting. As a part of this, there has always been broad agreement that we must pay particular attention prior to the introduction of new or additional health care services in the State.

We must consider not only whether there is sufficient need for new programs but also whether a new program will create negative pressure within what was the All-Payer Waiver and is now the All-Payer Model contract. We all know how high the stakes are as both consumers and

health care providers. If Maryland loses the waiver, we simply cannot absorb the costs associated with the impact of a \$2.3 billion loss in Medicare and Medicaid payments to Maryland health care system every year.

This summer, Chairman Pendergrass and I requested that the Maryland Health Care Commission (MHCC) study the State's Certificate of Need process with a report to be completed by May 2018. Although the issues are not directly related, for the reasons described above, I believe that the HSCRC's jurisdiction over the waiver, makes it the more appropriate agency to examine any impact this proposed policy change would have on the All-Payer Model Contract. It is my hope, however, that the HSCRC could complete the evaluation as to the impacts of these in the same time frame as the other MHCC study. Without this kind of analysis, I do not believe that we know enough about the impacts of these legislative self-referral proposals to be able to determine that they would not put our all-payer system in jeopardy.

Maryland's unique health care system does mean that we must often take a more cautious approach in order to preserve what I believe to be one of the best health care systems in the Country. Thank you for your work and for your consideration of this important matter. If you have any questions, please contact David Smulski.

Very truly yours,

A handwritten signature in cursive script that reads "Thomas M. Middleton".

Thomas McLain Middleton  
Chairman, Senate Finance Committee

## **Appendix II**

### 42 C.F.R. § 411.357 Exceptions to the referral prohibition related to compensation arrangements.

- (a) Rental of office space**
- (b) Rental of equipment**
- (c) Bona fide employment relationships**
- (d) Personal service arrangements**
- (e) Physician recruitment**
- (f) Isolated transactions**
- (g) Certain arrangements with hospitals**
- (h) Group practice arrangements with a hospital**
- (i) Payments by a physician**
- (j) Charitable donations by a physician**
- (k) Nonmonetary compensation**
- (l) Fair market value compensation**
- (m) Medical staff incidental benefits**
- (n) Risk-sharing arrangements**
- (o) Compliance training**
- (p) Indirect compensation arrangements**
- (q) Referral services**
- (r) Obstetrical malpractice insurance subsidies**
- (s) Professional courtesies**
- (t) Retention payments in underserved areas**
- (u) Community-wide health information systems**
- (v) Electronic prescribing items and services**
- (w) Electronic health records items and services**

### 42 C.F.R. § 411.355 General exceptions to the referral prohibition related to both ownership/investment and compensation.

- (a) Physician services**
- (b) In-office ancillary services**
- (c) Services furnished by an organization (or its contractors or subcontractors) to enrollees**
- (e) Academic medical centers**
- (f) Implants furnished by an ASC**
- (g) EPO and other dialysis-related drugs**
- (h) Preventive screening tests, immunizations, and vaccines**
- (i) Eyeglasses and contact lenses following cataract surgery**
- (j) Intra-family rural referrals**

42 U.S. Code § 1395nn - Limitation on certain physician referrals

**(a) Prohibition of certain referrals...**

**(b) General exceptions to both ownership and compensation arrangement prohibitions**

**(1) Physicians' services**

**(2) In-office ancillary services**

**(3) Prepaid plans**

**(4) Other permissible exceptions:** In the case of any other financial relationship which the Secretary determines, and specifies in regulations, does not pose a risk of program or patient abuse.

**(5) Electronic prescribing**

**(e) Exceptions relating to other compensation arrangements**

**(1) Rental of office space; rental of equipment**

**(2) Bona fide employment relationships**

**(3) Personal service arrangements, including physician incentive plan**

**(4) Remuneration unrelated to the provision of designated health services**

**(5) Physician recruitment**

**(6) Isolated transactions**

**(7) Certain group practice arrangements with a hospital**

**(8) Payments by a physician for items and services**



## Chapter 226

## (Senate Bill 369)

AN ACT concerning

**Maryland Patient Referral Law – Compensation Arrangements Under Federally Approved Programs and Models**

FOR the purpose of exempting, under certain circumstances, a health care practitioner who has a certain compensation arrangement with a health care entity from a certain provision of law that prohibits a health care practitioner from referring a patient or directing certain persons to refer a patient to a certain health care entity; providing that the exemption is null and void if the Maryland Insurance Commissioner issues a certain order; providing that a certain provision of this Act may not be construed to permit certain actions, impose certain obligations, require the disclosure of certain information, authorize a certain payment, permit an arrangement that violates certain provisions of law, modify certain definitions or exceptions, or require a compensation agreement to comply with a certain provision of this Act; establishing a certain filing fee; requiring a certain participation agreement and other documents to be filed for approval with the Commissioner within a certain period of time before a certain exemption is implemented; providing for a certain exception; requiring the Commissioner to make a certain determination within a certain period of time; requiring the Commissioner to issue a certain order to a filer under certain circumstances; requiring the Commissioner to hold a hearing before issuing an order and to give written notice of the hearing to the filer within a certain period of time; requiring the notice to specify certain matters; requiring a filer to submit a revised filing under certain circumstances; requiring the Commissioner to make a new determination under certain circumstances; making a certain filing subject to a certain fee; ~~altering a certain definition~~; defining a certain ~~terms~~ term; and generally relating to patient referrals, compensation arrangements under federally approved programs and models, and the business of insurance.

~~BY repealing and reenacting, without amendments,~~  
~~Article – Health Occupations~~  
~~Section 1–301(a) and (g) through (i)~~  
~~Annotated Code of Maryland~~  
~~(2014 Replacement Volume and 2016 Supplement)~~

BY repealing and reenacting, with amendments,  
 Article – Health Occupations  
 Section ~~1–301(e), (k), and (l)~~ and 1–302  
 Annotated Code of Maryland  
 (2014 Replacement Volume and 2016 Supplement)

~~BY adding to~~  
~~Article – Health Occupations~~

~~Section 1-301(k)  
Annotated Code of Maryland  
(2014 Replacement Volume and 2016 Supplement)~~

BY adding to

Article – Insurance  
Section 2-112(a)(12) and 15-143  
Annotated Code of Maryland  
(2011 Replacement Volume and 2016 Supplement)

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND,  
That the Laws of Maryland read as follows:

### Article – Health Occupations

~~1-301.~~

~~(a) In this subtitle the following words have the meanings indicated.~~

~~(e) (1) “Compensation arrangement” means any agreement or system involving any remuneration, INCLUDING CASH OR IN-KIND COMPENSATION, between a health care practitioner or the immediate family member of the health care practitioner and a health care entity.~~

~~(2) “Compensation arrangement” does not include:~~

~~(i) Compensation or shares under a faculty practice plan or a professional corporation affiliated with a teaching hospital and comprised of health care practitioners who are members of the faculty of a university;~~

~~(ii) Amounts paid under a bona fide employment agreement between a health care entity and a health care practitioner or an immediate family member of the health care practitioner;~~

~~(iii) An arrangement between a health care entity and a health care practitioner or the immediate family member of a health care practitioner for the provision of any services, as an independent contractor, if:~~

~~1. The arrangement is for identifiable services;~~

~~2. The amount of the remuneration under the arrangement is consistent with the fair market value of the service and is not determined in a manner that takes into account, directly or indirectly, the volume or value of any referrals by the referring health care practitioner; and~~



~~3. The compensation is provided in accordance with an agreement that would be commercially reasonable even if no referrals were made to the health care provider;~~

~~(iv) Compensation for health care services pursuant to a referral from a health care practitioner and rendered by a health care entity, that employs or contracts with an immediate family member of the health care practitioner, in which the immediate family member's compensation is not based on the referral;~~

~~(v) An arrangement for compensation which is provided by a health care entity to a health care practitioner or the immediate family member of the health care practitioner to induce the health care practitioner or the immediate family member of the health care practitioner to relocate to the geographic area served by the health care entity in order to be a member of the medical staff of a hospital, if:~~

~~1. The health care practitioner or the immediate family member of the health care practitioner is not required to refer patients to the health care entity;~~

~~2. The amount of the compensation under the arrangement is not determined in a manner that takes into account, directly or indirectly, the volume or value of any referrals by the referring health care practitioner; and~~

~~3. The health care entity needs the services of the practitioner to meet community health care needs and has had difficulty in recruiting a practitioner;~~

~~(vi) Payments made for the rental or lease of office space if the payments are:~~

~~1. At fair market value; and~~

~~2. In accordance with an arm's length transaction;~~

~~(vii) Payments made for the rental or lease of equipment if the payments are:~~

~~1. At fair market value; and~~

~~2. In accordance with an arm's length transaction; or~~

~~(viii) Payments made for the sale of property or a health care practice if the payments are:~~

~~1. At fair market value;~~

~~2. In accordance with an arm's length transaction; and~~

~~3. The remuneration is provided in accordance with an agreement that would be commercially reasonable even if no referrals were made.~~

~~(g) "Health care entity" means a business entity that provides health care services for the:~~

~~(1) Testing, diagnosis, or treatment of human disease or dysfunction; or~~

~~(2) Dispensing of drugs, medical devices, medical appliances, or medical goods for the treatment of human disease or dysfunction.~~

~~(h) "Health care practitioner" means a person who is licensed, certified, or otherwise authorized under this article to provide health care services in the ordinary course of business or practice of a profession.~~

~~(i) "Health care service" means medical procedures, tests and services provided to a patient by or through a health care entity.~~

~~(K) "IN-KIND COMPENSATION" MEANS THE SHARING OF STAFF, RESOURCES, INFRASTRUCTURE, TECHNOLOGY, SOFTWARE, DATA, OR ANALYTICS.~~

~~[(k)](L) (1) "In-office ancillary services" means those basic health care services and tests routinely performed in the office of one or more health care practitioners.~~

~~(2) Except for a radiologist group practice or an office consisting solely of one or more radiologists, "in-office ancillary services" does not include:~~

~~(i) Magnetic resonance imaging services;~~

~~(ii) Radiation therapy services; or~~

~~(iii) Computer tomography scan services.~~

~~[(l)](M) (1) "Referral" means any referral of a patient for health care services.~~

~~(2) "Referral" includes:~~

~~(i) The forwarding of a patient by one health care practitioner to another health care practitioner or to a health care entity outside the health care practitioner's office or group practice; or~~



~~(ii) The request or establishment by a health care practitioner of a plan of care for the provision of health care services outside the health care practitioner's office or group practice.~~

1-302.

(a) Except as provided in subsection (d) of this section, a health care practitioner may not refer a patient, or direct an employee of or person under contract with the health care practitioner to refer a patient to a health care entity:

(1) In which the health care practitioner or the practitioner in combination with the practitioner's immediate family owns a beneficial interest;

(2) In which the practitioner's immediate family owns a beneficial interest of 3 percent or greater; or

(3) With which the health care practitioner, the practitioner's immediate family, or the practitioner in combination with the practitioner's immediate family has a compensation arrangement.

(b) A health care entity or a referring health care practitioner may not present or cause to be presented to any individual, third party payor, or other person a claim, bill, or other demand for payment for health care services provided as a result of a referral prohibited by this subtitle.

(c) Subsection (a) of this section applies to any arrangement or scheme, including a cross-referral arrangement, which the health care practitioner knows or should know has a principal purpose of assuring indirect referrals that would be in violation of subsection (a) of this section if made directly.

(d) The provisions of this section do not apply to:

(1) A health care practitioner when treating a member of a health maintenance organization as defined in § 19-701 of the Health – General Article if the health care practitioner does not have a beneficial interest in the health care entity;

(2) A health care practitioner who refers a patient to another health care practitioner in the same group practice as the referring health care practitioner;

(3) A health care practitioner with a beneficial interest in a health care entity who refers a patient to that health care entity for health care services or tests, if the services or tests are personally performed by or under the direct supervision of the referring health care practitioner;

(4) A health care practitioner who refers in-office ancillary services or tests that are:

(i) Personally furnished by:

1. The referring health care practitioner;
2. A health care practitioner in the same group practice as the referring health care practitioner; or
3. An individual who is employed and personally supervised by the qualified referring health care practitioner or a health care practitioner in the same group practice as the referring health care practitioner;

(ii) Provided in the same building where the referring health care practitioner or a health care practitioner in the same group practice as the referring health care practitioner furnishes services; and

(iii) Billed by:

1. The health care practitioner performing or supervising the services; or
2. A group practice of which the health care practitioner performing or supervising the services is a member;

(5) A health care practitioner who has a beneficial interest in a health care entity if, in accordance with regulations adopted by the Secretary:

(i) The Secretary determines that the health care practitioner's beneficial interest is essential to finance and to provide the health care entity; and

(ii) The Secretary, in conjunction with the Maryland Health Care Commission, determines that the health care entity is needed to ensure appropriate access for the community to the services provided at the health care entity;

(6) A health care practitioner employed or affiliated with a hospital, who refers a patient to a health care entity that is owned or controlled by a hospital or under common ownership or control with a hospital if the health care practitioner does not have a direct beneficial interest in the health care entity;

(7) A health care practitioner or member of a single specialty group practice, including any person employed or affiliated with a hospital, who has a beneficial interest in a health care entity that is owned or controlled by a hospital or under common ownership or control with a hospital if:

(i) The health care practitioner or other member of that single specialty group practice provides the health care services to a patient pursuant to a referral



or in accordance with a consultation requested by another health care practitioner who does not have a beneficial interest in the health care entity; or

(ii) The health care practitioner or other member of that single specialty group practice referring a patient to the facility, service, or entity personally performs or supervises the health care service or procedure;

(8) A health care practitioner with a beneficial interest in, or compensation arrangement with, a hospital or related institution as defined in § 19-301 of the Health – General Article or a facility, service, or other entity that is owned or controlled by a hospital or related institution or under common ownership or control with a hospital or related institution if:

(i) The beneficial interest was held or the compensation arrangement was in existence on January 1, 1993; and

(ii) Thereafter the beneficial interest or compensation arrangement of the health care practitioner does not increase;

(9) A health care practitioner when treating an enrollee of a provider-sponsored organization as defined in § 19-7A-01 of the Health – General Article if the health care practitioner is referring enrollees to an affiliated health care provider of the provider-sponsored organization;

(10) A health care practitioner who refers a patient to a dialysis facility, if the patient has been diagnosed with end stage renal disease as defined in the Medicare regulations pursuant to the Social Security Act; [or]

(11) A health care practitioner who refers a patient to a hospital in which the health care practitioner has a beneficial interest if:

(i) The health care practitioner is authorized to perform services at the hospital; and

(ii) The ownership or investment interest is in the hospital itself and not solely in a subdivision of the hospital; OR

**(12) SUBJECT TO SUBSECTION (F) OF THIS SECTION, A HEALTH CARE PRACTITIONER WHO HAS A COMPENSATION ARRANGEMENT WITH A HEALTH CARE ENTITY, IF THE COMPENSATION ARRANGEMENT IS FUNDED BY OR PAID UNDER:**

**(I) A MEDICARE SHARED SAVINGS PROGRAM ACCOUNTABLE CARE ORGANIZATION AUTHORIZED UNDER 42 U.S.C. § 1395JJJ;**

**(II) AS AUTHORIZED UNDER 42 U.S.C. § 1315A:**

1. AN ADVANCE PAYMENT ACCOUNTABLE CARE ORGANIZATION MODEL;

2. A PIONEER ACCOUNTABLE CARE ORGANIZATION MODEL; OR

3. A NEXT GENERATION ACCOUNTABLE CARE ORGANIZATION MODEL;

(III) AN ALTERNATIVE PAYMENT MODEL APPROVED BY THE FEDERAL CENTERS FOR MEDICARE AND MEDICAID SERVICES; OR

(IV) ANOTHER MODEL APPROVED BY THE FEDERAL CENTERS FOR MEDICARE AND MEDICAID SERVICES THAT MAY BE APPLIED TO HEALTH CARE SERVICES PROVIDED TO BOTH MEDICARE BENEFICIARIES AND INDIVIDUALS WHO ARE NOT MEDICARE BENEFICIARIES.

(e) A health care practitioner exempted from the provisions of this section in accordance with subsection (d) shall be subject to the disclosure provisions of § 1-303 of this subtitle.

(F) IF THE MARYLAND INSURANCE COMMISSIONER ISSUES AN ORDER UNDER § 15-143 OF THE INSURANCE ARTICLE THAT A COMPENSATION ARRANGEMENT FUNDED BY OR PAID UNDER A PAYMENT MODEL LISTED IN SUBSECTION (D)(12) OF THIS SECTION VIOLATES THE INSURANCE ARTICLE OR A REGULATION ADOPTED UNDER THE INSURANCE ARTICLE, THE EXEMPTION PROVIDED UNDER SUBSECTION (D)(12) OF THIS SECTION FOR A HEALTH CARE PRACTITIONER WHO HAS THE COMPENSATION ARRANGEMENT WITH A HEALTH CARE ENTITY IS NULL AND VOID.

(G) SUBSECTION (D)(12) OF THIS SECTION MAY NOT BE CONSTRUED TO:

(1) PERMIT AN INDIVIDUAL OR ENTITY TO ENGAGE IN THE INSURANCE BUSINESS, AS DEFINED IN § 1-101 OF THE INSURANCE ARTICLE, WITHOUT OBTAINING A CERTIFICATE OF AUTHORITY FROM THE MARYLAND INSURANCE COMMISSIONER AND SATISFYING ALL OTHER APPLICABLE REQUIREMENTS OF THE INSURANCE ARTICLE;

(2) (I) IMPOSE ADDITIONAL OBLIGATIONS ON A CARRIER PROVIDING INCENTIVE-BASED COMPENSATION TO A HEALTH CARE PRACTITIONER UNDER § 15-113 OF THE INSURANCE ARTICLE; OR



(II) REQUIRE THE DISCLOSURE OF INFORMATION REGARDING THE INCENTIVE-BASED COMPENSATION, EXCEPT AS REQUIRED UNDER § 15-113 OF THE INSURANCE ARTICLE;

(3) AUTHORIZE A HEALTH CARE ENTITY TO KNOWINGLY MAKE A DIRECT OR INDIRECT PAYMENT TO A HEALTH CARE PRACTITIONER AS AN INDUCEMENT TO REDUCE OR LIMIT MEDICALLY NECESSARY SERVICES TO INDIVIDUALS WHO ARE UNDER THE DIRECT CARE OF THE HEALTH CARE PRACTITIONER;

(4) PERMIT AN ARRANGEMENT THAT VIOLATES:

(I) § 14-404(A)(15) OF THIS ARTICLE; OR

(II) § 8-508, § 8-511, § 8-512, § 8-516, OR § 8-517 OF THE CRIMINAL LAW ARTICLE;

(5) NARROW, EXPAND, OR OTHERWISE MODIFY:

(I) ANY DEFINITION IN § 1-301 OF THIS SUBTITLE, INCLUDING THE DEFINITION OF "IN-OFFICE ANCILLARY SERVICES"; OR

(II) ANY EXCEPTION IN SUBSECTION (D)(4) OF THIS SECTION INCLUDING THE EXCEPTION FOR REFERRALS FOR IN-OFFICE ANCILLARY SERVICES OR TESTS; OR

(6) REQUIRE A COMPENSATION ARRANGEMENT TO COMPLY WITH THE PROVISIONS OF SUBSECTION (D)(12) OF THIS SECTION IF THE COMPENSATION ARRANGEMENT IS ~~DESCRIBED IN~~ EXEMPT UNDER ANY OTHER PROVISION OF SUBSECTION (D) OF THIS SECTION.

Article - Insurance

2-112.

(a) Fees for the following certificates, licenses, permits, and services shall be collected in advance by the Commissioner, and shall be paid by the appropriate persons, including health maintenance organizations, to the Commissioner:

(12) FEES FOR REQUIRED FILINGS UNDER § 15-143 OF THIS ARTICLE.....\$125

15-143.

(A) IN THIS SECTION, "PARTICIPATION AGREEMENT" MEANS A CONTRACT THAT:

(1) IS EXECUTED BY A PAYOR OR PROGRAM ADMINISTRATOR AND OTHER PARTICIPATING ENTITIES; AND

(2) DESCRIBES THE REQUIREMENTS FOR PARTICIPATION IN A PAYMENT MODEL SUBJECT TO THIS SECTION.

(B) THIS SECTION APPLIES ONLY TO A PAYMENT MODEL DESCRIBED IN § 1-302(D)(12) OF THE HEALTH OCCUPATIONS ARTICLE:

(1) THAT APPLIES TO INDIVIDUALS COVERED UNDER HEALTH INSURANCE; AND

(2) UNDER WHICH THERE IS CASH COMPENSATION.

(C) (1) EXCEPT AS PROVIDED IN PARAGRAPH (2) OF THIS SUBSECTION, AT LEAST 60 DAYS BEFORE AN EXEMPTION PROVIDED UNDER § 1-302(D)(12) OF THE HEALTH OCCUPATIONS ARTICLE FOR A PAYMENT MODEL SUBJECT TO THIS SECTION IS IMPLEMENTED, THE PARTICIPATION AGREEMENT AND OTHER DOCUMENTS RELEVANT TO THE PAYMENT MODEL UNDER WHICH A COMPENSATION ARRANGEMENT BETWEEN A HEALTH CARE PRACTITIONER AND A HEALTH CARE ENTITY IS FUNDED OR PAID SHALL BE FILED WITH THE COMMISSIONER.

(2) THE FILING UNDER PARAGRAPH (1) OF THIS SUBSECTION IS NOT REQUIRED IF THE COMPENSATION ARRANGEMENT IS FUNDED FULLY BY OR PAID FULLY UNDER THE MEDICARE OR MEDICAID PROGRAM.

(D) WITHIN 60 DAYS AFTER THE DOCUMENTS REQUIRED UNDER SUBSECTION (C)(1) OF THIS SECTION ARE FILED, THE COMMISSIONER SHALL DETERMINE IF ANY COMPENSATION ARRANGEMENT BETWEEN A HEALTH CARE PRACTITIONER AND A HEALTH CARE ENTITY FUNDED BY OR PAID UNDER THE PAYMENT MODEL:

(1) IS INSURANCE BUSINESS; AND

(2) VIOLATES THIS ARTICLE OR A REGULATION ADOPTED UNDER THIS ARTICLE.

(E) (1) IF THE COMMISSIONER DETERMINES THAT A COMPENSATION ARRANGEMENT IS INSURANCE BUSINESS AND VIOLATES THIS ARTICLE OR A REGULATION ADOPTED UNDER THIS ARTICLE, THE COMMISSIONER SHALL ISSUE AN



ORDER TO THE FILER THAT SPECIFIES THE WAYS IN WHICH THE COMPENSATION ARRANGEMENT VIOLATES THIS ARTICLE OR A REGULATION ADOPTED UNDER THIS ARTICLE.

(2) (I) THE COMMISSIONER SHALL HOLD A HEARING BEFORE ISSUING AN ORDER UNDER PARAGRAPH (1) OF THIS SUBSECTION.

(II) THE COMMISSIONER SHALL GIVE WRITTEN NOTICE OF THE HEARING TO THE FILER AT LEAST 10 DAYS BEFORE THE HEARING.

(III) THE NOTICE SHALL SPECIFY THE MATTERS TO BE CONSIDERED AT THE HEARING.

(3) IF THE COMPENSATION ARRANGEMENT BETWEEN A HEALTH CARE PRACTITIONER AND A HEALTH CARE ENTITY CHANGES DURING ITS TERM:

(I) THE FILER SHALL SUBMIT A REVISED FILING TO THE COMMISSIONER FOR REVIEW OF THE CHANGES; AND

(II) THE COMMISSIONER SHALL MAKE A NEW DETERMINATION, AS PROVIDED UNDER SUBSECTION (D) OF THIS SECTION.

(F) A FILING UNDER SUBSECTION (C) OF THIS SECTION IS SUBJECT TO THE FEE REQUIRED UNDER § 2-112(A)(12) OF THIS ARTICLE.

SECTION 2. AND BE IT FURTHER ENACTED, That this Act shall take effect ~~October~~ June 1, 2017.

Approved by the Governor, April 18, 2017.

## Appendix IV

### Summary of Key Studies and Reports

Title and Author	Key Findings
Medicare: Referrals to Physician-Owned Imaging Facilities Warrant HCFA's Scrutiny: GAO, 1994	Florida physicians with a financial interest in joint-venture imaging centers had higher referral rates for almost all types of imaging services than other Florida physicians. Physicians with an interest in imaging centers that offered MRI services ordered twice as many MRI scans as other physicians.
Medicare: Higher Use of Advanced Imaging Services by Providers Who Self-Refer Costing Medicare Millions: GAO, 2012	From 2004 through 2010, the number of self-referred and non-self-referred advanced imaging services – MRI and CT – both increased, with the larger increase among self-referred services. For example, the number of self-referred MRO services increased over this period by more than 80 percent, compared with an increase of 12 percent for non-self-referred MRI and CT services. Medicare spent approximately \$190 million more in 2010 than it would have without these self-referral incentives.
Medicare: Higher Use of Costly Prostate Cancer Treatment by Providers Who Self-Refer Warrants Scrutiny: GAO, 2013	The number of Medicare prostate cancer-related intensity-modulated radiation therapy (IMRT) services performed by self-referring groups increased rapidly, while declining for non-self-referring groups from 2006 to 2010. Over this period, the number of prostate cancer-related IMRT performed by self-referring groups increased from about 80,000 to 366,000. The growth in services performed by self-referring groups was due entirely to limited-specialty groups – groups comprised of urologists and a small number of other specialties – rather than multispecialty groups. Self-referring providers were 53% more likely to refer their prostate cancer patients for IMRT than non-self-referring providers.
Physician self-referral and physician-owned specialty facilities: Robert Wood Johnson, 2008	There is strong evidence that self-referral increases the utilization of health care services and indirect evidence that at least some of this increase is not medically appropriate. The factors that lead to self-referral include: (1) the opportunity to be paid both a professional fee and a facility fee, (2) fee-for-service payment and the opportunity to increase the volume of services provided, (3) the ability to profit from services that use little of the physician's time, (4) cost containment policies, (5) efficiency, (6) higher reimbursement for certain services.
A Detailed Diagnosis of Integrated Community Oncology: BRG Health Care, 2015	Integrated community oncology practices share a number of common characteristics, including care coordination, patient-physician communication, and personal attention, but are uniquely shaped by the communities in which they operate. Integrated community oncology practices provide access to cancer care at a lower cost than hospital outpatient departments. The most quantifiable benefit for patients, which has been demonstrated in multiple studies, is lower out-of-pocket costs for cancer treatment delivered in the community setting comparable to hospitals.

<p>Cost Differences in Cancer Care Across Setting: The Moran Company, 2013</p>	<p>By a variety of metrics, estimated chemotherapy spending is higher under the Hospital Outpatient Prospective Payment system (OPPS) than corresponding payments in the physician office under the Medicare Physician Fee Schedule (MPFS) for the same set of patients despite lower unit payment rates for drugs in the OPPS during the 2009-2011 period. Our comparison of service use rates across settings leads to the conclusion that patients receive more chemotherapy administration sessions on average when treated in the outpatient hospital—and that the dollar value of chemotherapy services used is meaningfully higher in the outpatient hospital.</p>
<p>Radiation Oncology Physician Practice in the Modern Era: A Statewide Analysis of Medicare Reimbursement: Cureus, 2017</p>	<p>We queried the 2013 Medicare Provider and Utilization and Payment Data for radiation oncologists in New York State, obtained from <a href="http://www.CMS.gov">www.CMS.gov</a>. We demonstrated that physicians working at urology practices generate increased revenues by combining high patient volumes with increased IMRT utilization. This report supplements and extends earlier work documenting practice patterns for combined urology and radiation oncology groups. Our study confirms prior research which demonstrated that freestanding centers utilized IMRT at a higher rate than hospital-based practices but provides richer detail by practice site. While improper variation in IMRT utilization can increase costs without improving outcome, appropriate use of IMRT can be highly beneficial.</p>
<p>Total Cost of Cancer Care by Site of Services: Physician Office vs Outpatient Hospital: Avalere, 2012</p>	<p>Avalere Health analyzed three years of commercial health plan data to examine the differences in the total cost of care for cancer patients based on the site of service of chemotherapy or radiation therapy. Our risk-adjusted results suggest that treatment for patients receiving chemotherapy in a HOPD costs on average 24 percent more than treatment received in a physician’s office. We also found care for patients treated in a physician’s office less expensive regardless of the length of the chemotherapy duration. Similar to unadjusted numbers, radiation therapy episodes of one or two months were more expensive when HOPD-managed, while episodes of three months were less expensive when HOPD-managed.</p>
<p>Site of Service Cost Difference for Medicare Patient Receiving Chemotherapy: Milliman, 2011</p>	<p>On an annualized basis, taking into consideration the average number of member months that chemotherapy patients are covered by Medicare a year, the total costs for physician office patients and hospital outpatient patients are approximately \$47,500 and \$54,000, respectively. This produces an annual cost difference of approximately \$6,500 per patient per year. Patient pay amounts were about 10% higher for the hospital outpatient patients, which total over \$650 per patient per year.</p>
<p>Spending by Commercial Insurers on Chemotherapy Based on Site of Care, 2004-2014, JAMA April 2018</p>	<p>Spending on chemotherapy drugs is lower when the medicine is administered in physician offices as opposed to hospital outpatient facilities, according to a 10-year study of more than 280,000 commercially insured patients.</p>

<p>Implications of Hospital Employment of Physicians on Medicare and Beneficiaries: Physicians Advocacy Institute, 2017</p>	<p>This study was not focused on Oncology but highlighted the growing rates of physician practice acquisition. Physician employment by hospitals grew by 49% between 2012 and 2015. Healthcare services provided in hospital outpatient (HOPD) settings are reimbursed at higher rates than when provided in physician offices. Physicians employed by hospitals perform a higher volume of services in HOPD settings than in physician offices.</p>
<p>The Value of Community Oncology: Site of Care Cost Analysis: Xcenda, 2017</p>	<p>The study included 6675 patients receiving chemotherapy, radiation, and/or surgery for the 3 types of cancer between July 10, 2010, and June 20, 2015. Results showed that the mean total price per month per patient for community practices was \$12,548, whereas the mean total for hospital-based practices was \$20,060, an almost \$8000 difference. Community practices also saw 28% fewer emergency department visits 3 days post-treatment and 18% fewer emergency department visits after 10 days.</p>
<p>Differences in Health Care Use and Costs Among Patients With Cancer Receiving Intravenous Chemotherapy in Physician Offices Versus in Hospital Outpatient Settings: J Oncology Pract, Jan. 2017</p>	<p>This retrospective study, which was based on medical and pharmacy claims data, included patients (age, 18 to 64 years) initiating IV chemotherapy/biologic treatment between January 1, 2006, and August 31, 2012, who were diagnosed with early or metastatic breast cancer, metastatic lung cancer, metastatic colorectal cancer, or non-Hodgkin lymphoma or chronic lymphocytic leukemia. Cancer-related inpatient hospitalizations were lower in the physician office (PO) group than in the Hospital outpatient (HOP) group. Although quality-of-care metrics were similar between the HOP and PO groups, follow-up all-cause costs (\$82,773 PO v \$122,473 HOP) and cancer-related health care costs (\$69,037 PO v \$108,177 HOP) were higher in the HOP group than in the PO group.</p>
<p>Cost Differential by Site of Service for Cancer Patients Receiving Chemotherapy: The American Journal of Managed Care, March 2015</p>	<p>To compare the costs of: 1) chemotherapy treatment across clinical, demographic, and geographic variables; and 2) various cancer care-related cost categories between patients receiving chemotherapy in a community oncology versus a hospital outpatient setting. Data from the calendar years 2008 to 2010 from the Truven Health Analytics MarketScan Commercial Claims and Encounters Database were analyzed. Patients receiving chemotherapy treatment in the community oncology clinic had a 20% to 39% lower mean per member per month cost of care, depending on diagnosis, compared with those receiving chemotherapy in the hospital outpatient setting. This cost differential was consistent across cancer type, geographic location, patient age, and number of chemotherapy sessions.</p>
<p>Urologist' Use of Intensity-Modulated Radiation Therapy for Prostate Cancer: New England Journal of Medicine, October 2013</p>	<p>Using Medicare claims from 2005 through 2010, I constructed two samples: one comprising 35 self-referring urology groups in private practice and a matched control group comprising 35 non-self-referring urology groups in private practice, and the other comprising non-self-referring urologists employed at 11 National Comprehensive Cancer Network centers matched with 11 self-referring urology groups in private practice. The rate of IMRT use by self-referring urologists in private practice increased from 13.1 to 32.3%, an increase of 19.2</p>

	percentage points. Among non–self-referring urologists, the rate of IMRT use increased from 14.3 to 15.6%, an increase of 1.3 percentage points.
Action Needed to Address Higher Use of Anatomic Pathology Services by Providers Who Self-Refer: GAO June 2013	GAO estimates that in 2010, self-referring providers likely referred over 918,000 more anatomic pathology services than if they had performed biopsy procedures at the same rate as and referred the same number of services per biopsy procedure as non-self-referring providers. These additional referrals for anatomic pathology services cost Medicare about \$69 million. To the extent that these additional referrals were unnecessary, avoiding them could result in savings to Medicare and beneficiaries, as they share in the cost of services.
Impact of Medicare Payments of Shift in Site of Care for Chemotherapy Administration: BRG Research Group, June 2014	By 2012 approximately 0.77 million claims had shifted into the hospital outpatient department setting on an annual basis. Chemotherapy claims attributable to 340B hospital acquisitions of physician-based oncology practices (0.12 million) account for at least 15.6 percent of the shift in the site of care from physicians’ offices to hospital outpatient departments. Medicare and Medicare beneficiaries incurred additional costs (allowed amount) of \$196.55 million for chemotherapy claims attributable to the 86 340B hospitals’ acquisitions of physician-based oncology practices. These additional costs represented 39.8 percent of the total allowed amount and were a function of increased utilization and higher reimbursement rates in hospital outpatient departments.
Hospital Acquisitions of Physician Practices and the 340B program: Avalere Health LLC, June 2015	This analysis found that 61 percent of hospitals identified as potentially acquiring physician practices between 2009 and 2013 participated in the 340B Program. This 61 percent 340B participation rate among the acquiring hospitals is higher than the overall 45 percent 340B participation rate among all hospitals in the study. It is beyond the scope of this study to determine whether 340B itself is contributing to physician practice acquisitions. However, the results suggest that policy makers may want to consider whether the 340B program creates financial incentives for hospitals to acquire a community-based physician practice.
Total expenditures per patient in hospital-owned and physician-owned physician organizations in California: JAMA, Oct. 2014	From the perspective of the insurers and patients, between 2009 and 2012, hospital-owned physician organizations in California incurred higher expenditures for commercial HMO enrollees for professional, hospital, laboratory, pharmaceutical, and ancillary services than physician-owned organizations. Although organizational consolidation may increase some forms of care coordination, it may be associated with higher total expenditures.
Presentation to the MHCC Provider Carrier Work Group: Discern Health	Maryland’s self-referral restrictions may prevent providers from testing innovative care delivery models under value-based purchasing arrangements

Appendix V

340B HOSPITALS

Hospital	Comments
Garrett County Memorial Hospital	
Holy Cross Hospital	
Holy Cross Hospital - Germantown	
Johns Hopkins Bayview Medical Center	
Johns Hopkins Hospital	
MedStar Franklin Square Hospital Center	
MedStar Good Samaritan Hospital	
MedStar Harbor Hospital	
MedStar St. Mary's Hospital	
MedStar Union Memorial Hospital	
Mercy Medical Center	
Northwest Hospital Center	
Peninsula Regional Medical Center	Began participating 10/17
Prince Georges Hospital Center	
Shady Grove Adventist Hospital	
Sinai Hospital	
St. Agnes	
University of Maryland Medical Center	
University of Maryland Medical Center Midtown Campus	
University of Maryland Rehabilitation & Orthopedic Institute	
Washington Adventist Hospital	
Western Maryland Regional Medical Center	
Bon Secours	Approved not participating
Union of Cecil	Approved not participating
Med Star Southern Maryland Hospital Center	Approved not participating