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562nd MEETING OF THE HEALTH SERVICES COST REVIEW COMMISSION
June 12, 2019

EXECUTIVE SESSION
11:30 a.m.
(The Commission will begin in public session at 11:00 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 Administration of Model - Authority General Provisions Article, §3-103 and §3-104**

3. **Personnel Updates - Authority General Provisions Article, §3-305(b)(1)(ii)**

PUBLIC SESSION
1:00 p.m.

1. **Review of the Minutes from the Public and Closed Meetings held on May 10, 2019**

2. **Docket Status – Cases Closed**

   2478A – University of Maryland Medical Center 2479A – University of Maryland Medical Center
   2480A – University of Maryland Medical Center

3. **Docket Status – Cases Open**

   2481A - Johns Hopkins Health System 2482A - Johns Hopkins Health System
   2483A - Johns Hopkins Health System

4. **Final Recommendation on Market Shift Adjustment Policy**

5. **Final Recommendation on the Update Factor for FY 2020**

6. **Final Recommendation on Changes to the Relative Value Units Scale on Emergency Department Services**

7. **Report on Uncompensated Care for FY 2020**

8. **Policy Update and Discussion**

9. Hearing and Meeting Schedule

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, 2019

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
2481A	Johns Hopkins Health System	4/29/2019	N/A	N/A	ARM	DNP	OPEN
2482A	Johns Hopkins Health System	4/30/2019	N/A	N/A	ARM	DNP	OPEN
2483A	Johns Hopkins Health System	5/30/2019	N/A	N/A	ARM	DNP	OPEN
2484A	University of Maryland Medical Center	6/4/2019	N/A	N/A	ARM	DNP	OPEN

PROCEEDINGS REQUIRING COMMISSION ACTION - NOT ON OPEN DOCKET

NONE

IN RE: THE APPLICATION FOR	*	**BEFORE THE MARYLAND HEALTH**	
ALTERNATIVE METHOD OF RATE	*	**SERVICES COST REVIEW**	
DETERMINATION	*	**COMMISSION**	
JOHNS HOPKINS HEALTH	*	**DOCKET:**	**2019**
SYSTEM	*	**FOLIO:**	**2291**
BALTIMORE, MARYLAND	*	**PROCEEDING:**	**2481A**

Staff Recommendation

June 12, 2019

I. INTRODUCTION

Johns Hopkins Health System ("System") filed an application with the HSCRC on April 29, 2019 on behalf of its member hospitals, Johns Hopkins Hospital, Johns Hopkins Bayview Medical Center, and Howard County General Hospital (the "Hospitals") and on behalf of Johns Hopkins HealthCare, LLC (JHHC) and Johns Hopkins Employer Health Programs, Inc. to continue to participate a global rate arrangement with Accarent for bariatric surgery, bladder surgery, anal rectal surgery, cardiovascular services, joint replacement surgery, pancreas surgery, spine surgery, parathyroid surgery, solid organ and bone marrow transplants, Eating Disorders, Gall Bladder Surgery and Executive Health services for a period of one beginning June 1, 2019.

II. OVERVIEW OF APPLICATION

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

III. FEE DEVELOPMENT

The hospital portion of the global rates 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.

IV. IDENTIFICATION AND ASSESSMENT OF RISK

The Hospitals will 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

Although there has been no activity for the last year, staff believes that the Hospitals can achieve a favorable experience under this arrangement.

VI. STAFF RECOMMENDATION

The staff recommends that the Commission approve the Hospital's' application for an alternative method of rate determination for bariatric surgery, bladder surgery, anal rectal surgery, cardiovascular services, joint replacement surgery, pancreas surgery, spine surgery, parathyroid surgery, solid organ and bone marrow transplants, Eating Disorders, Gall Bladder Surgery, and Executive Health services with an effective date for the new services of June 1, 2019. 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.

IN RE: THE APPLICATION FOR	*****	**BEFORE THE MARYLAND HEALTH**	
ALTERNATIVE METHOD OF RATE	*****	**SERVICES COST REVIEW**	
DETERMINATION	*****	**COMMISSION**	
JOHNS HOPKINS HEALTH	*****	**DOCKET:**	**2019**
SYSTEM	*****	**FOLIO:**	**2292**
BALTIMORE, MARYLAND	*****	**PROCEEDING:**	**2482A**

Staff Recommendation

June 12, 2019

I. INTRODUCTION

Johns Hopkins Health System ("System") filed an application with the HSCRC on April 30, 2019 on behalf of its member hospitals, Johns Hopkins Hospital, Johns Hopkins Bayview Medical Center, and Howard County General Hospital (the "Hospitals") and on behalf of Johns Hopkins HealthCare, LLC (JHHC) and Johns Hopkins Employer Health Programs, Inc. for an alternative method of rate determination, pursuant to COMAR 10.37.10.06. The System and JHHC request approval from the HSCRC to continue to participate in a global rate arrangement for bariatric surgery, bladder cancer surgery, anal and rectal cancer surgery, cardiovascular services, joint replacement surgery, pancreatic cancer surgery, spine surgery, and thyroid and parathyroid surgery with BridgeHealth Medical, Inc. for a period of one year beginning June 1, 2019.

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 manage all financial transactions related to the global price contract including payments to the System hospitals and bear all risk relating to regulated services associated with the contract.

III. FEE DEVELOPMENT

The hospital portion of the global rates 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.

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

The experience under this arrangement for the last year has been favorable.

VI. STAFF RECOMMENDATION

The staff recommends that the Commission approve the Hospitals' application for an alternative method of rate determination for bariatric surgery, bladder cancer surgery, anal and rectal cancer surgery, cardiovascular services, joint replacement surgery, pancreatic cancer surgery, spine surgery, and thyroid and parathyroid surgery for a one year period commencing June 1, 2019. 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.

IN RE: THE APPLICATION FOR	*****	**BEFORE THE MARYLAND HEALTH**	
ALTERNATIVE METHOD OF RATE	*****	**SERVICES COST REVIEW**	
DETERMINATION	*****	**COMMISSION**	
JOHNS HOPKINS HEALTH	*****	**DOCKET:**	**2019**
SYSTEM	*****	**FOLIO:**	**2293**
BALTIMORE, MARYLAND	*****	**PROCEEDING:**	**2483A**

Staff Recommendation

June 12, 2019

I. INTRODUCTION

Johns Hopkins Health System (the "System") filed an application with the HSCRC on May 30, 2019 on behalf of Johns Hopkins Hospital and Johns Hopkins Bayview Medical Center (the "Hospitals") and on behalf of Johns Hopkins HealthCare, LLC (JHHC) and Johns Hopkins Employer Health Programs, Inc. 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 rate arrangement for bariatric surgery, bladder surgery, anal rectal surgery, cardiovascular services, joint replacement surgery, pancreas surgery, spine surgery, thyroid surgery, parathyroid surgery, solid organ and bone marrow transplants, and Executive Health services, gender affirming surgery, and gall bladder surgery with Assured Partners, formerly Crawford Advisors, LLC, for a period of one year beginning July 1, 2019.

II. OVERVIEW OF APPLICATION

The contract will be continue to be held and administered by JHHC, which is a subsidiary of the System. JHHC will 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 updated global rates was developed by calculating mean historical charges for patients receiving similar procedures at the Hospitals. 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 continues to hold 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 the risk of potential losses.

V. STAFF EVALUATION

The experience under this arrangement for the last year has been favorable.

VI. STAFF RECOMMENDATION

The staff recommends that the Commission approve the Hospitals' application for an alternative method of rate determination for bariatric surgery, bladder surgery, anal rectal surgery, cardiovascular services, joint replacement surgery, pancreas surgery, spine surgery, thyroid surgery, parathyroid surgery, solid organ and bone marrow transplants, and Executive Health services, gender affirming surgery, and gall bladder surgery for a one year period commencing July 1, 2019. 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.

Final Recommendation for Market Shift Consolidation

June 12, 2019

Health Services Cost Review Commission

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Key Methodology Concepts and Definitions

1. Variable Cost Factor – The percentage of charges required to reimburse a hospital for the variable costs (supplies, drugs, etc.) associated with increases in volume. The standard by which the industry and the Commission evaluates volume funding adequacy is 50 percent, as 50 percent of all service charges on average covers fixed costs and 50 percent covers variable costs. This value is not uniform by service line.

2. Effective Variable Cost Factor – The percentage of charges that are reimbursed when accounting for revenue adjustments from volume methodologies. This value can be calculated with revenue from one or the sum of multiple volume methodologies

3. Service Lines – Groupings of services into higher level categories that reflect similar clinical delivery. Service lines are utilized to determine market shifts in the Market Shift methodology

4. Equivalent Case Mix Adjusted Discharges (ECMADS) – Often referred to as casemix, ECMADS are a volume statistic that account for acuity, as not all services require the same level of care and resources.

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Recommendations

Staff recommends the following updates to the current Commission Methodologies:

1. Consolidate defined markets in the Market Shift methodology by reducing service lines with clinical overlap and assessing inpatient surgery and other highly specialized services at a county level.
2. Establish a Workgroup to evaluate potential modifications to the Demographic Adjustment that will better anticipate use rate changes while maintaining its status as population based.

Introduction

The State of Maryland has led an effort to transform its health care delivery system to a population-based system that increases the emphasis on patient-centered care, improves population health, and lowers health care costs. To achieve these goals, the State of Maryland worked closely with hospitals, payers, other providers, consumers and the Centers for Medicare & Medicaid Services to develop the Maryland All-Payer Model, which was implemented in 2014. The Model moved away from a volume-based payment system that limited the growth in inpatient charge-per-case to a system that limits the growth in total hospital spending per capita and increasingly focused on outcomes: readmissions, in-hospital complications, potentially avoidable utilization, and patient satisfaction, among others.

At the conclusion of the Model in December of 2018, preliminary results show that the State met and exceeded every contractual target[1] and hospital total profit margins statewide recovered from the unsustainable levels experienced in 2013.[2] Given that the State has endeavored to continue these transformative efforts and build off of the success of the All-Payer Model with the new Total Cost of Care Model, effective January 1, 2019, and given that various volume methodologies have not been examined since the inception of the All-Payer Model, it is important that the State evaluate its methodologies and modify where necessary.

Fundamental to the All-Payer Model was the Global Budget Revenue (GBR) methodology, which was piloted by ten rural hospitals in 2010 and aimed to provide stability to hospitals by establishing annual prospective budgets and allowing for charges to fluctuate in line with reasonable changes in volume.[3] However, while hospital budgets were fixed during a given

[1] Limiting all-payer hospital spending per capita in line with the growth of the economy, saving Medicare a total of at least $330 million by keeping Maryland's Medicare per beneficiary growth below the national growth rate (currently the State has saved $1.4 billion), reducing Medicare readmissions to the national average (currently .05% lower than national average), reducing
hospital acquired complications by 30 percentage (currently the State has reduced by 51 percent), and moving virtually all hospital payment methodologies to approved population based approaches.

[2] The statewide average for profit margins for RY 2013 was 1.2 percent; since that time the statewide average for profit margins has been approximately 3 percent. See appendix I for more detail.

[3] The HSCRC allows hospitals to adjust charges for individual rate centers (e.g. room and board) to fluctuate within a 5 percent corridor. HSCRC reviews hospital requests adjust prices beyond a 5 percent corridor.

fiscal year, thereby incentivizing hospitals not to grow volumes unnecessarily and providing a high level of predictability, the Commission had to develop strategies to modify budgets in future years based on changes in population, the aging of the population, new health care innovation cost drivers, and changes in market selection.

To achieve the twin goals of funding population related utilization changes and realigning budgets for market shifts, the HSCRC developed two core volume funding methodologies: the Demographic Adjustment and Market Shift Adjustment. The Demographic Adjustment methodology provides funding for age-adjusted growth/decline at the zip code or county level in order to anticipate changes in utilization based on demographic changes.[4] The Demographic Adjustment is capped by Maryland Department of Planning estimates of statewide population growth to align with the per capita nature of the All-Payer Model tests, i.e. the contractual tests are not age-adjusted.

The HSCRC staff also developed a Market Shift Adjustment methodology that evaluated hospitals' growth/decline for each defined service line and geography to determine the degree to which patients moved from one hospital to another in the most recent calendar year in comparison to the prior year. The Market Shift moved money in the following year at a 50 percent cost factor when volumes moved up at one hospital and down at another in the same service line and geography. Taken together, these policies ensure a competitive hospital market where money follows the patient but only such that statewide volume on net does not grow for anything other than population growth and various forms of healthcare innovation. Both of these methodologies resulted in adequate volume funding statewide while maintaining the Model's status as population-based, but have produced less predictable funding for volume changes at the individual hospital level.

As staff will demonstrate, volume funding statewide has been adequate over the first four years of the Model, but the distribution of funding in any given year has not entirely aligned with medically necessary use rates and to some degree has created hospitals with greater cost inefficiency and poorer total cost of care outcomes. This is because population estimates outlined in the Demographic Adjustment methodology do not necessarily correlate with actual changes in hospital utilization and because the Market Shift methodology is very granular in the development of markets – there are 60 hospital service lines, over 350 geographies and potentially 20,000 markets.

To address these concerns, staff is recommending two key changes in methodology.

- **Market Shift Adjustment:** The first change is to consolidate geographies and service lines to reduce the number of small cells in the Market Shift, improving the reliability of the results.

[4] The Demographic Adjustment developed for urban areas apportioned age-adjusted population changes among the hospitals serving each zip-code based on their market share in each zip code, in contrast to the rural Demographic Adjustment, which allocated the age-adjusted population change for a county to each rural hospital.

- **Demographic Adjustment:** The second change is to review with a workgroup potential modifications to the Demographic Adjustment that will better anticipate use rate changes while maintaining its status as population-based.

Another concern expressed by the Commissioners is that various hospitals have retained a significant amount of revenue under the current volume methodologies and thus have become cost inefficient. To address this, Commissioners have asked staff to promulgate an efficiency policy that removes revenue from inefficient hospitals. During Rate Year 2018, HSCRC staff developed an Inter-hospital Cost Comparison (ICC) and a geographic Medicare Total Cost of Care Performance Matrix to evaluate hospitals that were high cost outliers. One outlier hospital entered into a spend-down agreement with the Commission. During Rate Year 2018 and 2019, HSCRC staff have also made adjustments of more than $70 million for services that shifted to unregulated settings, including adjustments for oncology and infusion drugs shifted to unregulated settings. In order to expedite the process of adjusting revenues for high cost outlier hospitals and to make the adjustments more predictable, the HSCRC staff is proposing a more formulaic approach to implementing efficiency adjustments for outliers. This proposed approach will be outlined in a separate Staff Report, along with proposed updates to the Inter-hospital Cost Comparison methodology.

Background

Demographic Adjustment

As aforementioned, the Demographic Adjustment methodology provides funding for age-adjusted growth at the zip code or county level in order to anticipate changes in utilization based on demographic changes, and the Demographic Adjustment is capped by Maryland Department of Planning estimates of statewide population growth to align with the per capita nature of the All-Payer/Total Cost of Care Model tests. In 2011, the HSCRC implemented a demographic adjustment for the 10 rural hospitals on global budgets using age-adjusted county projections. The demographic adjustment was then reduced by a 50 percent variable cost factor and further reduced by a 50 percent productivity adjustment, resulting in a demographic adjustment that was 25 percent of the projected age-adjusted population change. In Rate Year 2015, the HSCRC implemented a full year of the Demographic Adjustment for the remainder of hospitals (beyond the 10 hospitals already under global budgets), and in subsequent years, the Commission included the full value of the statewide population growth in calculating the allowed adjustment. The Demographic Adjustment has averaged approximately 0.40 percent of net hospital revenue or ~$60 million, with lower values in recent periods resulting from slower population growth.

Market Shift Adjustment

The Market Shift was first implemented in RY 2015 based on CY 2014 calculations. Because a hospital cannot receive additional volume funding unless a different hospital has a reciprocal decline (a shift) in the same service and geography, the net statewide adjustment typically oscillates around $0.[5] For CY14 to CY17, the average statewide market shift was $586,000 and typically realigned $50 million among all hospitals.

Both methodologies affect permanent revenue and are implemented in conjunction with the annual Update Factor to prospectively cap the upcoming fiscal year budget for all hospitals. As they both impact the amount and distribution of volume funding, they should be considered in tandem when evaluating the adequacy of funding. Since the Market Shift is designed with the intent of moving funding when patients move from one hospital to another and not to adjust for overall increases or decreases in volume, the effective variable cost factor, which is the ratio between GBR adjustments from the Market Shift and total charges for volume change (inclusive of fixed costs and variable costs), is less than 50 percent.[6] However, when the Demographic Adjustment is considered in tandem with the Market Shift, the effective variable cost factor for hospitals with volume growth typically exceeds 50 percent for all hospitals.

The main difference between the Demographic Adjustment and the Market Shift is that the Demographic Adjustment modifies hospital budgets for volume change expectations based on projected growth or decline in the age-adjusted population while the Market Shift methodology modifies hospitals budgets based on actual movement of volume among hospitals.

Volume Calculation Overviews

In this section staff will explain in detail the calculations for the two core volume methodologies: the Demographic Adjustment and the Market Shift Adjustment. Additional details on these calculations and their input variables may also be found in the Appendices.

Overview of Demographic Adjustment Calculation

The purpose of the Demographic Adjustment is to provide volume funding increases or decreases in anticipation of utilization changes related to changes in age-adjusted population changes for a hospital's service area. This funding, which is based on calendar projections (e.g. RY 2020 will be based on CY 2019 population estimates), is used to prospectively adjust hospital revenues for the upcoming year. There are no retroactive adjustments for changes in

[5] The impact is not exactly $0 because realigned volumes are multiplied by hospitals' average charge, which may be different based on their cost structure (e.g. Bon Secours versus Johns Hopkins Hospital), and thus can yield statewide MSA's that deviate from $0.

[6] A 50 percent variable cost factor is the industry standard for determining the percent of charges necessary to cover all marginal or variable costs associated with providing one additional service and is the standard by which the Commission will evaluate its volume methodologies.

population estimates. Changes in estimates are addressed in developing the succeeding year's Demographic Adjustment.

The Demographic Adjustment calculation begins by determining a hospital's virtual patient service area (VPSA). A VPSA is determined by aggregating the hospital's service volume in each zip code for eight age groups in the State[7]. The HSCRC uses this service area distribution to attribute population to each hospital based on the proportional amount of casemix adjusted services it provides to patients in each zip code relative to services provided by all hospitals.

The HSCRC then calculates the estimated population change for the attributed population using population projections.[8] It also applies an age weight to each age/zip code cohort of the hospital's VPSA to adjust for the differences in cost per capita of each age cohort and to allow for changes resulting from aging of the population.

A portion of the existing service volume is a result of potentially avoidable utilization (PAU). The HSCRC removes this portion of the base volume on a hospital specific basis to eliminate any growth allowance for PAU, when projecting each hospital's expected volume growth due to changes in demographics. The remaining statewide age-adjusted population growth is compared to the State's Department of Planning population growth estimates, and each hospital's Demographic Adjustment is multiplied by a pro-rata reduction factor that accounts for the expected per capita efficiencies to accomplish the overall per capita savings targets in the All-Payer and Total Cost of Care Model, i.e. the final statewide Demographic Adjustment equals Department of Planning growth estimates. The result is the population driven volume growth that will be recognized in each hospital's global budget for the upcoming fiscal year.

Summary:

1. Calculate base population estimates for the current calendar year for each hospital based on a hospital's share of volume, as measured by equivalent case-mix adjusted discharges, in a given zip code age cohort.
2. Calculate age adjusted population growth rates by multiplying statewide age cost weights with zip/age population growth rates.
3. Calculate hospital specific age adjusted population growth by multiplying hospital specific base population by age adjusted population growth rates for each zip/age cohort and calculating total projected age adjusted population growth
4. Calculate final demographic adjustment by applying efficiency adjustments
    a. Reduce age adjusted population growth by hospital specific PAUs as a percent of total all-payer revenue
    b. Reduce PAU/age adjusted population growth by pro-rata per capita efficiency adjustment reduction

[7] The eight age cohorts (0 to 4, 5 to 14, 15 to 44, 45 to 54, 65 to 74, 75 to 84, 85+) within each zip code provide more specific cost trends than would otherwise result from an overall distribution since population growth trends and health care use within these cohorts differ significantly.

[8] HSCRC obtains its projections from a private vendor, Claritas, who provides zip code and age specific population estimates for current year and 5-year population projections.

Below is an example calculation with just one zip code for a GBR hospital to arrive at the statewide per capita efficiency adjustment.

Table 1: Demographic Adjustment Example Calculation

Zip Code	Age Cohort	Base Year ECMADs for Hospital	Total ECMADs for All Hospitals	Share of ECMADs	Base Population	Allocated Base Population	State Total Hospital Revenue per Capita	Age Cost Weights	Projected Population Growth Rate of Cohort	Age Adjusted Population Growth Rates	Hospital Age Adjusted Population Growth	Hospital Overall Age Adjusted Population Growth	Hospital PAU %	Hospital Specific PAU Adjusted Growth Rate	Statewide Per capita Efficiency Adjustment
		STEP 1a			Step1b		Step2a		Step2b		Step 3		Step 4		
A	B	C	D	E = C/D	F	G=F * E	H	I=H/H(total)	J	K=J*I	L=G*K	M=sum(L) /sum(G)	N	O=M*(1-N)	P=O*50%
00000	0-4	30	60	50%	3,713	1,857	$1,577	0.68	0.77%	0.52%	10				
00000	05-14	45	100	45%	23,471	10,562	$119	0.05	-0.07%	0.00%	(0)				
00000	15-44	100	210	48%	8,902	4,239	$3,798	1.63	-1.16%	-1.89%	(80)				
00000	45-55	20	35	57%	7,533	4,305	$2,822	1.21	1.18%	1.43%	61				
00000	55-64	25	40	63%	7,450	4,657	$3,413	1.46	0.16%	0.23%	11				
00000	65-74	25	30	83%	4,517	3,764	$5,162	2.21	2.73%	6.04%	227				
00000	75-84	55	70	79%	2,282	1,793	$7,337	3.14	2.42%	7.60%	136				
00000	85+	60	80	75%	1,044	783	$8,009	3.43	1.32%	4.53%	35				
Total	Total	360	625	58%	58,913	31,959	$2,335				401	1.3%	14%	1.08%	0.54%

For additional detail, please see Appendix 2.

Overview of Market Shift Calculation

The Market Shift Adjustment (MSA) methodology is an algorithm to calculate MSAs for a specific service line (e.g. orthopedic surgery) and a defined geographic location (e.g. ZIP code) using the case-mix adjusted volume measurement of equivalent case-mix adjusted discharges (ECMADS) for regulated inpatient and outpatient services. In total, there are 60 service lines, 46 inpatient and 14 outpatient, that are determined by 3M's aggregation of inpatient All Patients Refined Diagnostic Related Groupings (APR-DRG's), and HSCRC's aggregation of 3M's outpatient Enhanced Ambulatory Patient Groupings (EAPG's). The outpatient groupings are based on hospital rate center analyses to indicate the general services received at the hospital (e.g. emergency room services), while the inpatient service line aggregation is based on the diagnosis and/or procedure a patient receives (e.g. cardiothoracic surgery). There are also over 350 geographies in the Market Shift, as there are zip code level analyses for dense parts of the State and 15 county level analyses for less dense parts of the State.[9] After arraying volume in various service lines and geographies, the market shift algorithm compares the growth in volumes at hospitals with utilization increases to the decline in volumes at hospitals with utilization decreases.

It is important to note that not all revenue is included in the MSA. For instance, potentially avoidable utilization (PAU), which consists of 30 day readmissions and Prevention Quality Indicators,[10] is excluded because the Commission does not want to reward hospitals for growth

[9] For a discussion of Geographic and Service Line Definitions, please see Appendix 3.

[10] 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. Hospitalizations for ambulatory-care sensitive conditions are measured by the Agency for

in PAU, nor does it want to disincentive hospitals from reducing PAU. The scope of volume evaluated in the MSA is as follows:

Table 2: Scope of Volume Addressed in Market Shift Calculation

Included (~70% of revenue)	Not Included (30% of revenue)
In-state cases • Case-mix adjusted discharges • Case mix adjusted outpatient cases (grouped into Enhanced Ambulatory Patient Groups)	Cases • Out-of-state • Radiation and Infusion Therapy and Drugs (drugs addressed separately) • Defined quaternary cases, ("Categorical" exclusions such as transplants, research, severe burn, Car-T, Spinraza) • Readmissions and Prevention Quality Indicators (classified as potentially avoidable utilization, "PAU")
Mechanisms • Market Shift Adjustment • Demographic Adjustment • Other Adjustments	Mechanisms • Volume Variable for select cases • Rate review or special GBR adjustments • Intensity Adjustment

Market Shift Adjustments are capped at the lesser of the growth for volume gains or the decline for volume losses. This approach separates market shifts from collective changes in volume in the service area and removes incentives for driving up volume in the service area. This also means that not all volume growth or declines will be recognized at a 50 percent variable cost factor, only volume changes that are deemed market shifts.

Table 3 provides an illustration of the market shift calculation for ZIP code 21000 and the General Surgery service line. Within this ZIP code, the total volume increase is 654 equivalent case-mix adjusted discharges (ECMADs), and the decline is 129 ECMADs. Applying the "lesser of the two" rule, the allowed market shift is limited to 129 ECMADs, which is allocated to other hospitals with volume increases proportional to this hospital's volume increase in total utilization. In the end, the net impact of market shift volumes in each ZIP code and service line combination equals zero.

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

Table 3. Example Calculation of the Market Shift Algorithm

ZIP Code 21000 General Surgery	Volume CY13	Volume CY14	Volume Growth	Hospital's Proportion of Total Increase/Decline	Market Shift
	A	B	C=B-A	D=C/Subtotal C	E=D*Allowed Market Shift
Hospital A	1,000	1,500	500	76%	99
Hospital B	500	600	100	15%	20
Hospital C	50	100	50	8%	10
Hospital D	-	4	4	1%	1
Utilization Increase	1,550	2,204	654	100%	129
Hospital E	500	400	(100)	78%	(100)
Hospital F	50	25	(25)	19%	(25)
Hospital G	4	-	(4)	3%	(4)
Utilization Decline	554	425	(129)	100%	(129)
ZIP Code Total	**2,104**	**2,629**	**525**	-	0
Allowed Market Shift			**129**		

Summary:

1. Array all APR-DRG's and EAPG's into service lines and geographies for each hospital based on 3M inpatient service line specifications, HSCRC outpatient service line specifications based on rate center analyses, and geographies based on the patient's residency – zip code level for denser parts of the State and county level for the 15 rural jurisdictions in the State.
2. Remove from consideration all excluded market shift revenue, including potentially avoidable utilization, out-of-state volume, categorical exclusions, oncology drugs, and chronic cases from the MSA algorithm
3. Run the Market Shift algorithm to determine growth, both increases and decreases in volume for each service line and geography
4. Calculate final market shift adjustment by multiplying the volumes that have been deemed market shifts by a hospital's unique service line average charge per equivalent case mix adjusted discharge.
    a. The average charge includes all charges and therefore includes outlier charges built into the base of each hospitals GBR

Volume Assessment

In this section staff will analyze the adequacy of volume funding from both the Market Shift Adjustment and the Demographic Adjustment relative to a 50 percent variable cost factor, which is the standard by which the Commission and various stakeholders evaluate volume funding adequacy. Staff will further comment on the funding predictability from the two core volume methodologies and will analyze the statistical stability of the Market Shift, namely the degree to which small cell sizes in the market shift are contributing to random variation in the revenue adjustments. Finally, staff will outline modifications to the Market Shift that will create greater reliability in the results.

Adequacy and Predictability of Volume Funding

Over the first four years of the Model (CY 2014 – CY 2017), the Market Shift Adjustment provided a 50 percent variable cost factor for volume growth and declines that were deemed a market shift in the year following the shift.[11] As such, the funding from the Market Shift never reached a 50 percent effective variable cost factor, which was by design as the Market Shift only recognizes volume shifts, not total growth or declines. This is evident in Table 4, which demonstrates that when accounting for Market Shift Adjustments only, hospitals had unfunded growth relative to a 50 percent variable cost factor and retained declines relative to a 50 percent variable cost factor, i.e. if all volume changes were funded at a 50 percent variable cost factor the hospitals in this graph would all equal $0.

Table 4: Residual Funding of In-State Volume Growth and Declines at 50 percent variable cost factor for CY14-CY17 after applying Market Shift Adjustment only

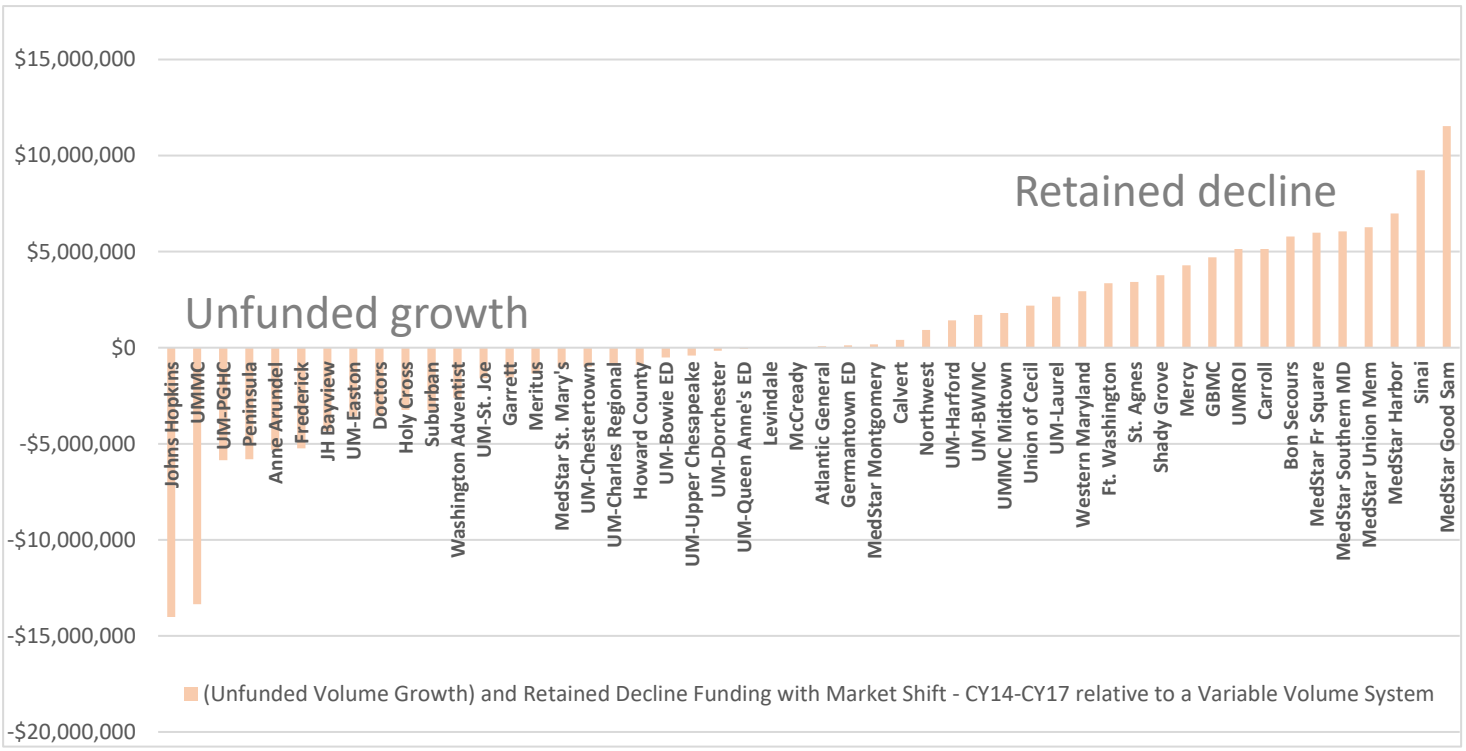


Table 5 builds off of Table 4 and outlines the Market Shift variable cost factor in terms of a percentage, i.e. an effective variable cost factor, both for hospitals with net increases in volume growth and net decreases by year.

[11] CY 2018 Market Shift is not included in this analysis because the final issuance of rate orders of CY 2018 Market Shift will not be completed until July 1, 2019.

Table 5: Market Shift Adjustment Effective Cost Factor for All Volume Growth - Net Growing Hospitals and Net Declining Hospitals

	MSA Effective Cost Factor (Net Growers)	Volume Growth $* (Net Growers)	MSA Effective CostFactor (Net Decliners)	Volume Growth $* (Net Decliners)
CY14	4.02 percent	$131.2M	27.7 percent	-$21.8M
CY15	29.5 percent	$91.8M	27.8 percent	-$176.1M
CY16	20.1 percent	$130.5M	25.7 percent	-$120.9M
CY17	31.2 percent	$100.2M	12.1 percent	-$211.2M

*Calculated by multiplying average charge for each service line by change in volume

As shown, hospitals with volume growth did not ever reach an effective variable cost factor of 50 percent for all volume growth through the Market Shift, which again is by design. The effective variable cost factor was particularly low in CY 2014 (4.02 percent), as hospitals had much larger growth relative to reductions in utilization ($131.2 million versus declines of -$21.8 million) and because the various interventions employed in the All-Payer Model were likely not yet implemented to respond to new incentives. Hospital volume growth for net growers slowed in subsequent years with the notable exception of CY 2016, when $83.5 million of the $130.5 million of growth for net growers was due to increases in the General Surgery service line. This growth coincided with the implementation of ICD-10, which had an unintended shift of cases into the General Surgery service line from lower weighted APR-DRGs, due to the conversion to ICD-10 in the third quarter of 2015 - in CY16.[12] It is also important to note that as the Model progressed the effective variable cost factor for net growers increased, suggesting that growth was more indicative of market shits and that hospitals were no longer uniformly responding to the volume driven incentives of the historical fee-for-service methodologies.

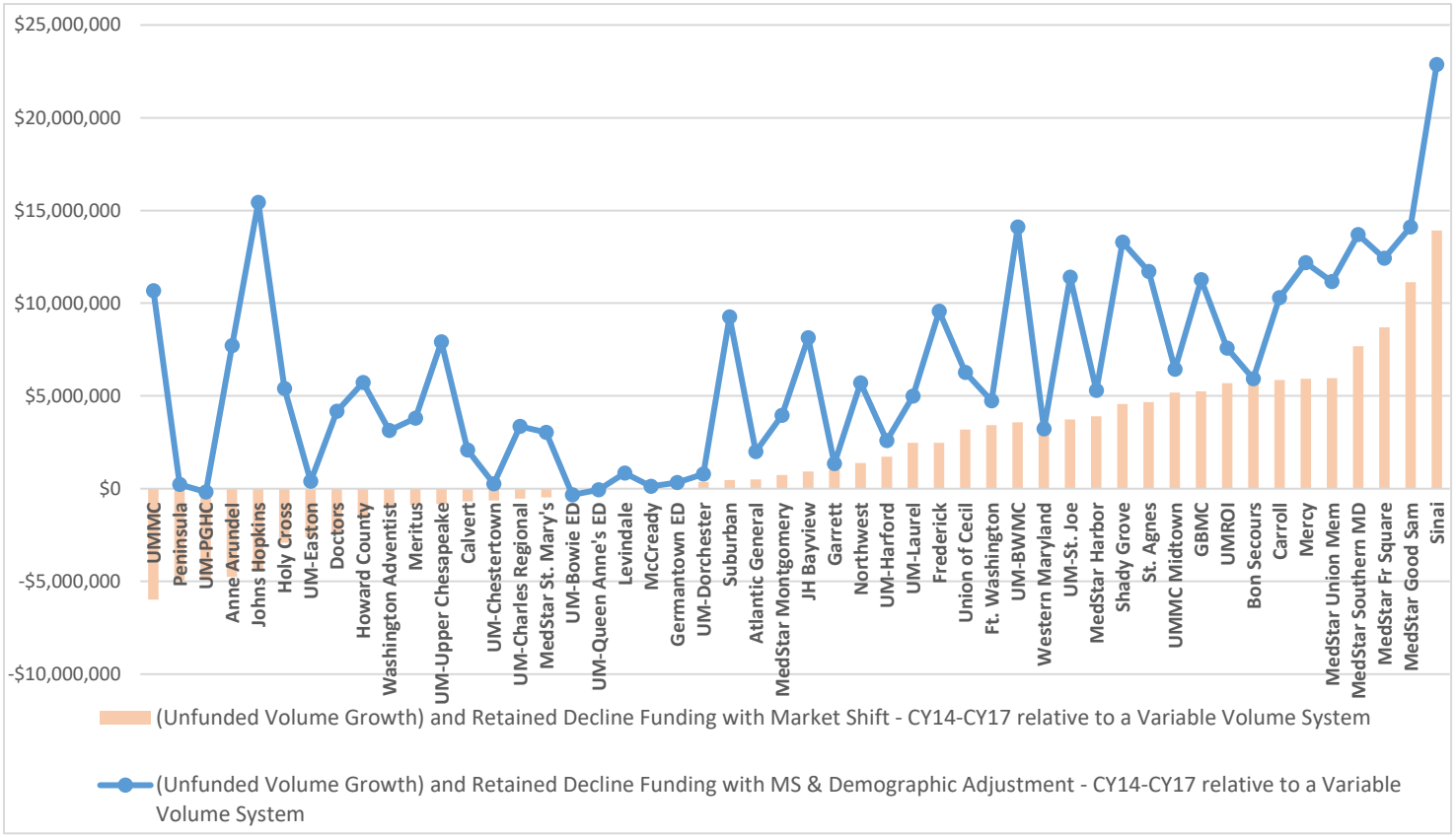
As volume reductions have increased precipitously since CY 2014, net decliners have sustained a fairly consistent effective variable cost factor, approximately 25 percent, which suggests that net declining hospitals have retained 75 percent of the revenue associated with reduced utilization.[13] In CY 2017, the volume reductions for net decliners reached the highest level totaling $211.2 million. Of note, $83.2 million of the CY 2017 decline was related exclusively to reductions in ED utilization.

[12] See Appendix 4 for additional detail on General Surgery volume growth related to ICD-10 conversion.

[13] In other words, 50 percent of the reductions were deemed market shifts and 50 percent were deemed avoided utilization – 0 percent avoided utilization + (50 percent market shift * 50 percent VCF) = 25 percent effective variable cost factor.

Analyzing the Market Shift in isolation would lead to a concern that hospitals with volume growth over the course of the All-Payer Model had been underfunded, potentially for medically necessary care, such as transcatheter aortic valve replacements (TAVR's). However, it is important to also consider the funding provided by the Demographic Adjustment, which aims to prospectively fund utilization growth related to demographic changes while maintaining the incentives of the Model to reduce unnecessary utilization. When this funding source is considered all hospitals in aggregate from CY 2014 to CY 2017 have received adequate funding relative to a 50 percent variable cost factor, as can be seen below in the blue line on Table 6:

Table 6: Residual Funding Differences of In-State Volume CY14-CY17 Market Shift and Demographic Adjustment Relative to a 50 percent Variable Cost Factor*



*Excludes Holy Cross Germantown and does not account for special adjustments, e.g. Medicaid Expansion and Deregulation. Note: if all hospitals were funded at a 50 percent variable cost factor for changes in utilization each hospital on the graph would be equal to $0.

While funding has been adequate for all hospitals over the course of the All-Payer Model, there are concerns that:

a) The standard of a 50 percent variable cost factor are not met in each individual year for all hospitals with volume growth, thereby leading to potentially unfunded medically necessary care and a degree of unpredictability;

b) The Market Shift methodology is difficult to interpret, most notably due to the large number of markets defined; and

c) Hospitals with retained revenue at the far right of Table 6 do not require such a large share of the Demographic Adjustment when they have simultaneously retained 100 percent of revenue for utilization reductions that are not deemed market shifts.

Staff concurs with these concerns and is proposing to evaluate potential modifications to the Demographic Adjustment that will better anticipate use rate changes while maintaining its status as population based. Staff is also proposing to reduce the number of markets/cells the Market Shift evaluates to reduce its complexity. The details of this proposal will be discussed in the *Proposed Modifications to Market Shift* section.

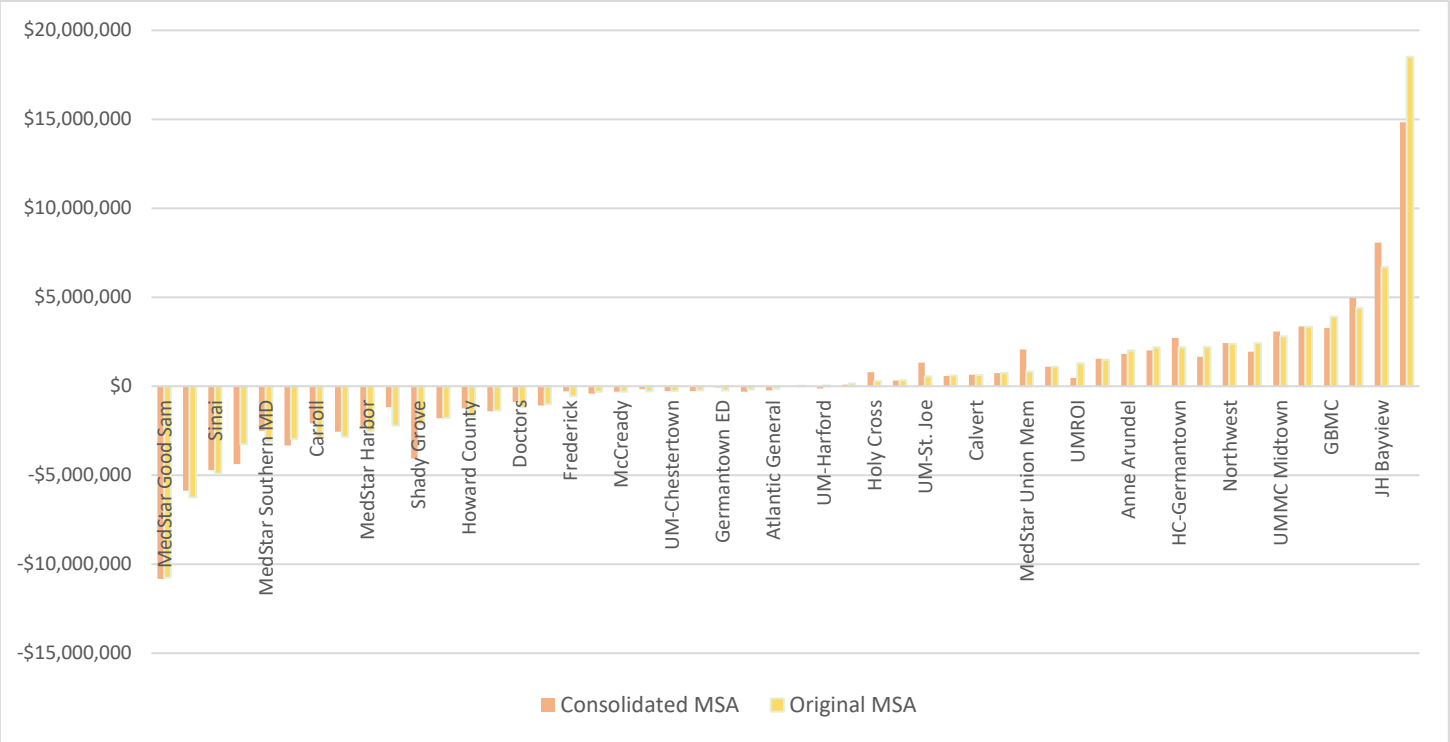
Market Shift Statistical Stability

As aforementioned, the Market Shift does evaluate a significant number of markets statewide - there are 60 hospital service lines[14], over 350 geographies and potentially 20,000 markets. Critics of the Market Shift have noted that the vast amount of markets or cells leads to statistical instability, especially when comparing growth year over year at such a granular level.

To evaluate the statistical stability of the Market Shift, staff consolidated the algorithm such that market shift evaluations only occurred at the county level, i.e. zip code market shifts were eliminated from the calculation. If the market shift revenue adjustments did not materially change under a revised consolidation, staff hypothesized that the Market Shift was not statistically unstable. In Table 7, the results of the consolidated Market Shift versus the regular Market Shift for CY17 indicated that there was not a large degree of change in the revenue adjustments by hospital, especially in comparison to the hospital's overall revenue base.

[14] For a complete list of service lines by APR-DRG or EAPG see Appendix 5.

Table 7: Market Shift Adjustments in Regular CY 2017 Market Shift versus Geographic Consolidated Market Shift



For most hospitals the consolidation of geographic cells did not materially change the market shift adjustment. The average dollar change was $15,000; the absolute average dollar change was $421,000. There were, however, various service lines that had a high degree of variation, which led to larger variances at the hospital level. For example, the market shift adjustment for the Ventilator Support service line at University of Maryland Medical Center decreased by $1.2 million, approximately 1/3 of University's $3.6 million variation in the two market shift calculations.

While the net hospital variation in market shift adjustments was not extremely large, staff was concerned that the change in dollar adjustments at the hospital level was not sufficient to conclude that the Market Shift is statistically stable. Thus, staff also ran additional analyses to determine the degree to which small cell sizes, e.g. less than 10 discharges per market, were correlated with changes in the consolidated and regular market shift adjustments at the service line level, i.e. random variation. Additionally, staff removed the influence large dollar value service lines can have on this analysis, because if a small dollar service line has random variation due to the statistically instability of the markets defined, it may be masked in a correlation analysis that looks solely at the absolute variation in terms of revenue. Therefore, staff ran the correlation of various small cell size indicators (less than 5, 10, 20 discharges per zip code) relative to service line absolute average dollar variation as a percentage of total service line charges.

Table 8: Correlation between Market Shift Service Line Dollar Variations between Market Shift Geographic Models & Small Cell Sizes

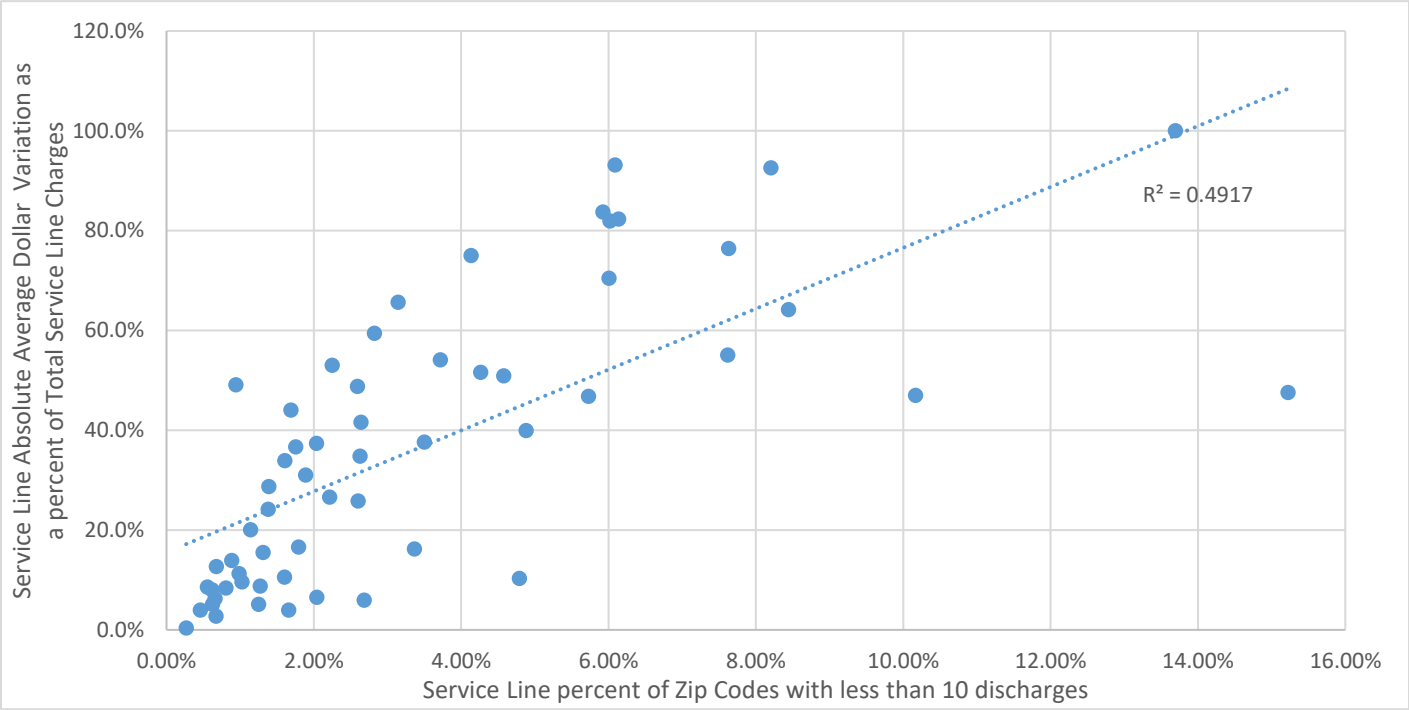


Table 8 indicates that there is indeed a strong relationship between markets with less than 10 discharges and variation between the two market shift calculations, as evidenced by a correlation of .7012, R^2 of .4917. The relationship becomes even stronger if inpatient and outpatient are evaluated independently of one another.[15] Of note, the correlation to determine the random variation begins to break down beyond 10 discharges, suggesting this is the critical point by which cell size becomes unstable.

Due to these analyses and staff's concurrence that the Market Shift is inherently more difficult to interpret with the sheer size of markets defined, staff is putting forward two strategies to consolidate markets, namely to consolidate medical services in terms of clinical overlap and surgical and highly specialized services in terms of geography, all of which be discussed in the *Proposed Modifications to Market Shift* section.

Proposed Modifications to Market Shift

Staff proposes two core strategies to reduce the number of markets or cells in the market shift algorithm, namely:

a) Collapsing medical services into similar service lines that have clinical overlap, similar average charges per equivalent casemix adjusted discharges (ECMADS), similar medical

[15] The R2 for an inpatient only analysis is .6194 and for outpatient is .9429.

designations of APR-DRG's or EAPG's, and similar overrepresentation in emergency room rate center charges, which signifies less elective forms of care, and

b) Collapsing inpatient surgeries, outpatient major surgeries, and highly specialized services (e.g. ventilator support, neonatology) into county evaluated markets as opposed to zip code evaluated markets because these services represent more elective forms of care, or care that is referred based on the availability of specialized resources.

Employing the assistance of the Volume Methodology workgroup and a few clinical experts in the field, staff has put forward a plan that takes the number of services lines from 60 to 44 and perhaps more importantly takes 28 service lines from a zip code evaluation to a county evaluation. These changes reduce the Market Shift cells from potentially being in excess of 20,000 to approximately 5,000, and markets with less than 10 discharges (an indicator of a potentially unstable cell size) went from approximately 7,000 to 1,000.[16]

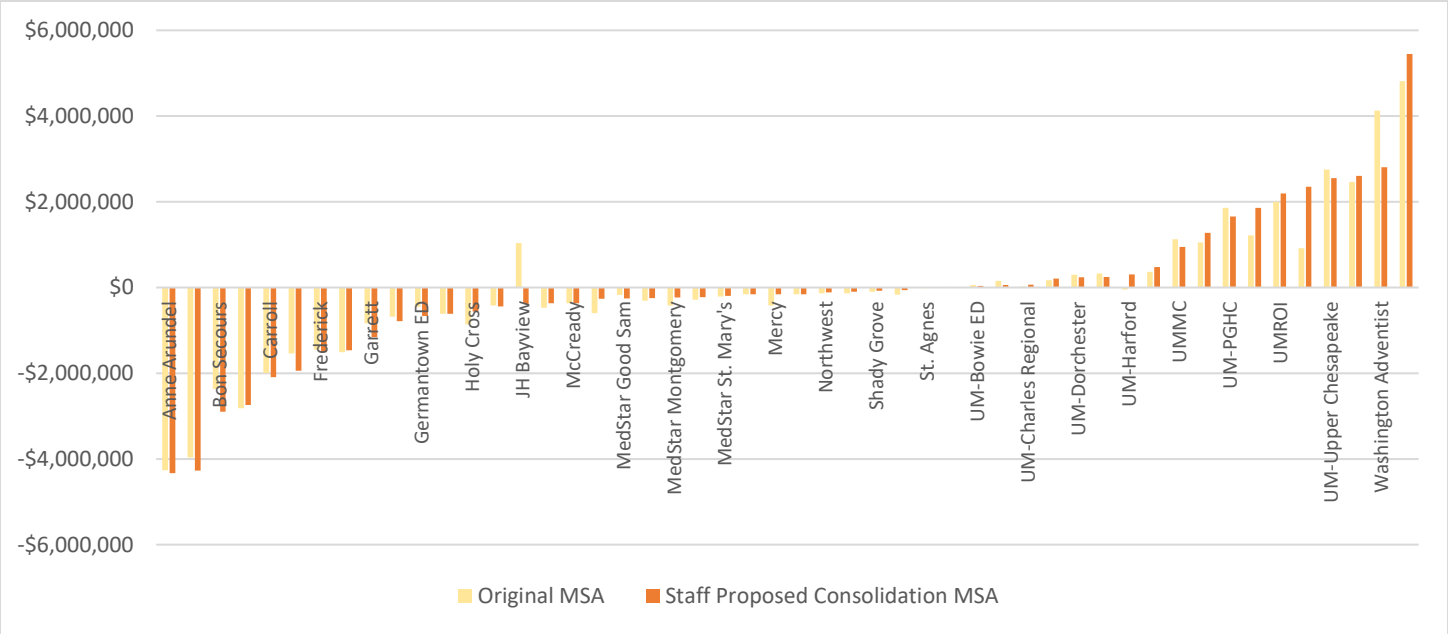
Various critics have noted that no markets should be evaluated on a zip code level and that the number of markets should be reduced further; however, staff is reluctant to pursue this course because further geographic consolidation of medical services, which often begin with a visit to the emergency room close to one's residency regardless of hospital selection, can potentially lead to avoided utilization being treated as a market shift and vice versa.[17]

Based on the outline for consolidation in Appendix 6, staff has produced two runs of market shift for the first six months of calendar year 2018 (regular and consolidated) and two runs of unrecognized market shift. For the former, Table 9 outlines revenue adjustment variation in the two market shift models by hospital:

[16] Please see Appendix 7 for the proposed consolidations by service line

[17] Please see Appendix 8 for a hypothetical example of services being misconstrued as a market shift and vice versa.

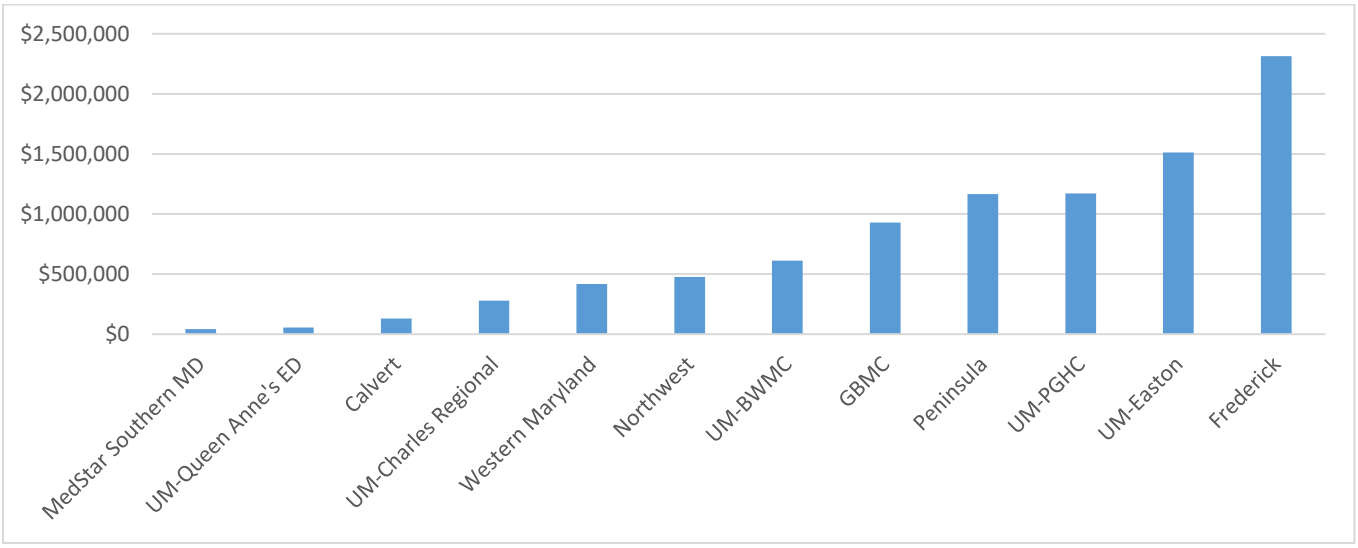
Table 9: Dollar Variation in CY 2018 Market Shift (six months) between Current Market Definitions and Staff Proposed Market Definitions



While the dollar variation as shown in Table 9 is not significant by hospital, it is important to note that the average dollar change of $7,000 was lower than the prior consolidation analysis and the absolute average dollar of $225,000 was also lower, suggesting that simplifying Market Shift to have approximately 5,000 cells did not materially affect the outcome. Nevertheless, the changes did simplify the approach and reduce the number of small cells.

For the unrecognized market shift under the newly proposed Market Shift consolidation staff notes that unfunded growth statewide is $9.1 million. See Table 10 for a break down by Hospital:

Table 10: CY 2018 (six months) Unfunded Growth by Hospital for all Service Lines



Of note, $5.3 million of the $9.1 million in unfunded growth is due to the Infectious Disease service line, which is usually indicative of seasonal flu spikes, and the $9.1 million does not account for any additional funding provided by the Demographic Adjustment.

Additional Considerations for Future Policies

All methodologies, in particular volume methodologies, require revisions to improve their accuracy and effectiveness. Staff's recommendations to the Demographic Adjustment and the Market Shift are incremental steps to make the Commission's core volume policies simpler and more predictable. Going forward staff plans to work to improve these methodologies further by engaging a clinical subgroup to consider additional reductions to the number of defined markets/cells in the Market Shift methodology.

Staff will also consider other approaches to allocation of the Demographic Adjustment. One alternative considered is to incorporate the expectation of declines in medical volumes and avoidable utilization and increases in some surgical utilization by incorporating these expected outcomes into the Demographic Adjustment on a service line basis. This would allow for a reallocation of the Demographic Adjustment based on the types of services being offered by each hospital, while not providing payment for actual volume changes. These and other options may be considered. The advantage of this option is that it would not create an incentive for volume growth. The disadvantage is that it does not recognize actual volume changes at each hospital. Staff has not modeled this option at the current time to see if it would address most stakeholder concerns regarding the allocation of the Demographic Adjustment.

Stakeholder Comments

Staff received four comment letters from stakeholders. The respondents were the Maryland Hospital Association (MHA), Johns Hopkins Health System (JHHS), University of Maryland Medical System (UMMS), and CareFirst. Each letter expressed support for staff's recommendation to consolidate markets in the Market Shift algorithm in terms of geography for more specialized services and services lines where clinical overlap exists. Each letter also expressed support for establishing a workgroup to evaluate potential modifications to the Demographic Adjustment.

Specific comments that were expressed by respondents are as follows:

JHHS stressed that this "… is certainly a step in the right direction, but is just that, a step in what should also be an evolving process to continuously improve the HSCRC rate setting methodologies." JHHS also noted that staff should consider using variable cost factors specific to service lines. **Staff agrees that the Commission methodologies should be reviewed and revised when empirical evidence and modelling suggests there is room for improvement. Staff will consider future modifications to the Commission's core volume methodologies**

during future workgroup engagements, including variable cost factors specific to service lines.

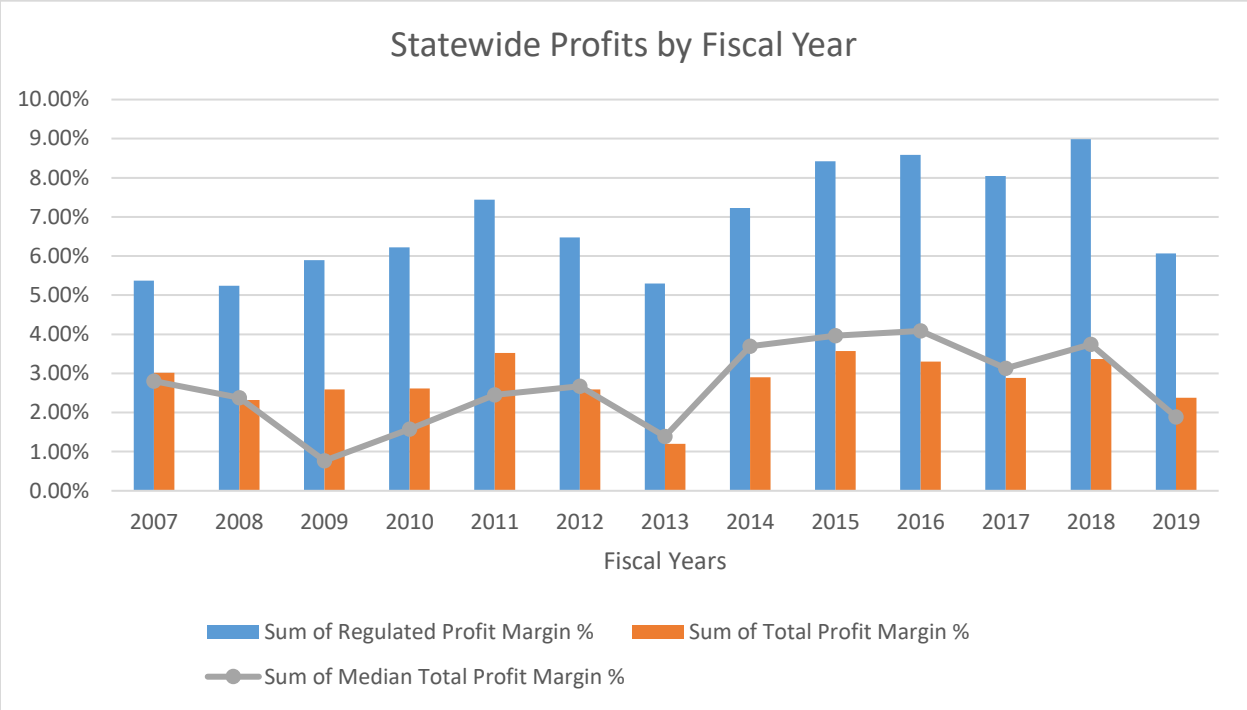
CareFirst wrote that it looks "…forward to discussing with staff ways to in which the MSA [Market Shift Adjustment] might be further consolidated and simplified, going forward." **While staff has no immediate plans to review further simplification of the Market Shift methodology, staff will continue review and revise methodologies when empirical evidence and modelling suggest there is room for improvement, as noted in staff's response to JHHS comments.**

Recommendations

Staff recommends the following updates to the current Commission Methodologies:

1. Consolidate defined markets in the Market Shift methodology by reducing service lines with clinical overlap and assessing inpatient surgery and other highly specialized services at a county level.
2. Establish a Workgroup to evaluate potential modifications to the Demographic Adjustment that will better anticipate use rate changes while maintaining its status as population based.

Appendix 1. Statewide Profit Analysis (RY 2007 – RY 2019 YTD)



Appendix 2. Demographic Adjustment Detailed Calculation Steps

This section provides the data sources used and a more detailed explanation of each step of the calculation.

Data Sources:

Volume estimates and total charges by age cohorts are calculated using HSCRC patient level inpatient and outpatient abstract data submitted on a monthly basis. All calculations involving volume and charges include only Maryland residents, determined by the reported billing zip code of the patient.

Zip code and age specific population estimates and projections were provided by Claritas for current year and 5-year population projections, since zip code level data are not available from the Department of State Planning.

Below are the detailed calculation steps:

STEP 1. Calculate base population estimates for each hospital based on its share of volume, as measured by equivalent case-mix adjusted discharges, in a given zip code/age cohort.

> **Step 1a: Calculate the base year total service volume of the hospital (inpatient and outpatient) for each zip code by each of the eight age cohorts based on Equivalent Case Mix Adjusted Discharges.**

i. Measure the volume of inpatient services as total inpatient case mix adjusted discharges (CMADs) that occurred in the specified fiscal year.
ii. Measure the volume of outpatient services as follows:
    a. Calculate the Hospital Unit Charge as the average charge per CMAD for all of the hospital's inpatients that occurred in the specified fiscal year.
    b. Calculate the outpatient equivalent case mix adjusted discharges (ECMADs) as:

$$Outpatient\ ECMAD = \frac{Total\ Charges - Inpatient\ Charges}{Hospital\ Unit\ Charge}$$

iii. Sum inpatient CMADs and Outpatient ECMADs to determine total service volume of the hospital ECMADs for each zip code and age cohort.

Step 1b: Allocate the base population for each zip/age cohort.

Use the proportion of each hospitals ECMAD volumes in each zip/age cohort divided by the total ECMADs for all hospitals in that zip/age cohort to allocate a proportion of the population in each zip code to each hospital.

Example:

For Hospital A and Zip/Age Cohort J the base population would be calculated as:

Base Population$_{AJ}$ = Population$_J$* (ECMAD$_{AJ}$/ECMAD$_J$)

STEP 2: Calculate age adjusted population growth rates.

Step 2a: Calculate the statewide age cost weight for each age cohort.

Relative age cost weights are applied to a hospital's allocated population and population estimates to arrive at cost weighted populations for the base year and the projection year to account for the age-weighted growth in the population. Age specific hospital cost weights are calculated at the state level as the ratio of average total hospital charges per capita for each statewide age cohort to the statewide average hospital charge per capita in the base year. The total hospital charges include charges for Maryland residents only. This calculation is illustrated below for the statewide [5-14] age cohort.

$$Age\ Cost\ Weight\ for\ [5\ to\ 14] Age\ Cohort = \frac{Total\ [5\ to\ 14]\ Hospitals'\ Charges/Population\ in\ Base\ Year}{Total\ [All\ cohorts] Hospitals'\ Charges\ /Population\ in\ Base\ Year}$$

Step 2b: Calculate age adjusted growth rates.

For each zip/age cohort, the estimated population growth rates are multiplied by the age cost weights to determine the cost weighted population growth rates.

For a Zip/Age Cohort J and Age Weight [5 to 14];

Age Adjusted Population Growth Rate = Population Growth Rate$_J$* Age-Weight [5 to 14]

STEP 3: Calculate hospital overall age adjusted growth.

The age adjusted projected population related volume growth is calculated by multiplying base population numbers by age adjusted growth rates from Step 2 for each zip/age cohort. The overall hospital specific age adjusted growth rate is the sum of the allocated age adjusted population for the projection period divided by the age adjusted allocated population for the base period. This is converted to a percentage after subtracting 1.

For Hospital A and Zip/Age Cohort J and Age-Weight [5 to 14];

Projected Population Growth = Base Population$_{AJ}$*Population Growth Rate$_J$* Age-Weight [5 to 14]

Then overall Projected Population for Hospital A for all Zip/Age Cohorts = i…..z:

$$Overall\ Projected\ Population\ Growth\ Rate = \frac{Sum\ of\ (Projected\ Population\ Growth\ i \ldots z)}{Sum\ of\ (\ Base\ Population\ i \ldots . z)}$$

STEP 4: Calculate the appropriate volume growth by applying efficiency adjustments.

Step 4a: Reduce age adjusted overall projected growth by hospital specific overall PAU percentage of revenue.

The overall growth rate calculated in Step 3 is reduced by the PAU percentage of revenue that is calculated on a hospital specific basis by multiplying the growth rate by the PAU percentage of revenue. The policy result is that the hospital will not receive a demographic adjustment on any of its PAU revenues, which includes revenue from avoidable admissions, 30-day readmissions, observation or emergency department visits, as well as revenue from complications (see below for additional information). PAU percentages of revenue are calculated at the hospital specific level by calculating the ratio of PAU revenue divided by total hospital revenue.

Step 4b: Reduce the PAU adjusted growth percentage for each hospital to achieve an allowance for demographic growth statewide that is lower than the overall growth allowed by the All-Payer Model.

The All-Payer Model provides for per capita growth, without any explicit adjustment for aging of the population. The preliminary result of Step 4a provides a demographic factor for each hospital that includes an age adjustment and that has been reduced by a measure of potentially avoidable utilization. Without further adjustment, the age and PAU adjusted demographic factor statewide would produce an allowance for growth that is above the statewide allowance for growth in population. Therefore, an additional efficiency adjustment reduction percentage is applied to each hospital's age and PAU adjusted growth percentage to bring the allowance

statewide to a level within the overall population increase percentage provided by the Model. For example, if the age and PAU adjusted allowance were 1.2percent but the target population allowance was .6percent, then all hospitals would receive an additional efficiency adjustment of 50percent. This adjustment recognizes the ability to provide incremental volumes at a lower marginal cost or to further reduce avoidable volume to achieve the needed efficiency level of the per capita model.

Final Demographic Percentage: At the conclusion of Step 4b, the final demographic adjustment percentage has been calculated for each hospital in the State. After adding 1 to the percentage, this demographic growth rate is multiplied by each hospital's approved revenue from the base year to arrive at the population adjusted revenue for the target year.

Appendix 3. Geographic and Service Line Definition Discussion

Geographic Area Definitions

Market shift is focused on movement of patients and services between Maryland hospitals. Narrowly defined geographic regions are better for calculating market shift, especially for emergency medical service lines, because the individual hospitals serving the region are not likely to be differentially impacted by population growth or demographically driven changes in utilization rates. However, defining markets too narrowly may result in shifts not being recognized by the MSA. Calculating market shift at the statewide level, in contrast, would result in the movement of dollars to hospitals in regions experiencing population growth at the expense of other regions.

In densely populated regions of the state where there is significant competition among hospitals, market shift calculations are currently performed at the ZIP code level for all services. However, ZIP code level calculations introduce random variation to the measurement in small geographic areas where the population density is low, and the health care market is concentrated. Such ZIP codes are aggregated to limit the impact of small cell sizes on the calculations. ZIP codes in the following jurisdictions are aggregated at the county level:

Garrett, Allegany, Washington, Cecil, Kent, Queen Anne's, Caroline, Talbot, Dorchester, Wicomico, Somerset, Calvert, Charles, Saint Mary's, Worcester

Random variation has not been entirely addressed by aggregating rural regions into county level markets. Thus, staff will discuss in the Volume Assessment section the concern about small cell sizes and the continuance of random variation in current MSA's. Staff will propose to consolidate geographies further for specialized services that are more elective in nature and to also consolidate service lines with clinical overlap.

In calculating market shifts, all hospitals will still have the same geographic definitions. For example, to calculate volume changes in Garrett County, all ZIP codes in Garrett County will be added together for each hospital with volume in Garrett County. The calculations of volume changes will be based on ZIP code-level analysis for the remaining jurisdictions and service lines that are not aggregated, such as Baltimore City emergency room services.

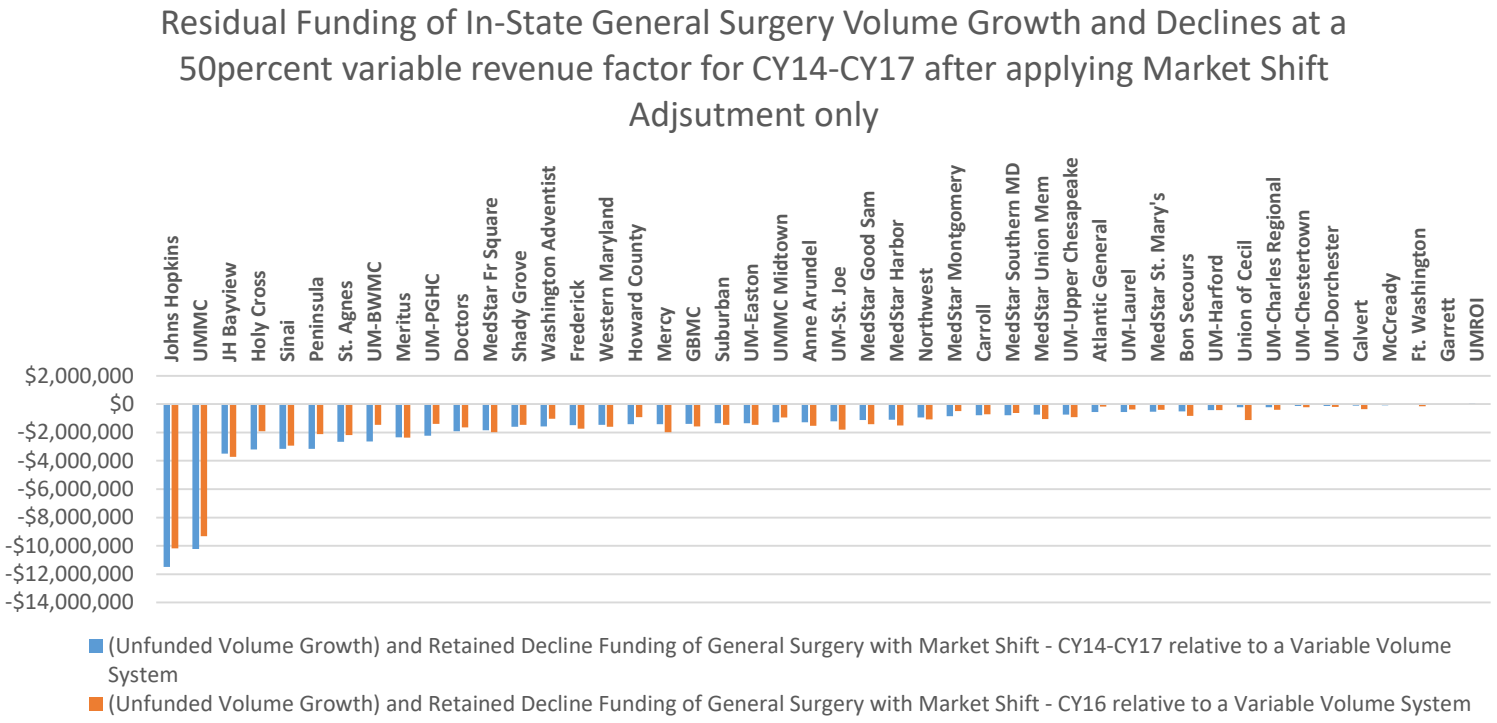
Service Line Definitions

Narrow definitions of service lines were proposed to prevent utilization growth for one component of the service line from masking a shift in patients for another service line. For instance, a service line that captures all surgical procedures might be growing at every hospital in a region due to increasing demand for orthopedic surgery and thereby masking the shift of 50 cardiac surgical procedures from one hospital to another.

Movement of cases from inpatient to outpatient settings and utilization of observation units creates a challenge in differentiating shifts from one hospital to another, or shifts from a hospital's inpatient to outpatient service settings. Staff addressed this issue by counting and weighting all observation room cases of 24 or more hours as inpatient and more recently has started moving outpatient services to inpatient if that service was removed from Medicare's inpatient only list, e.g. total knee arthroplasties.

Inpatient service lines are developed using the existing 3M methodology to group all patient refined-diagnosis related groups (APR-DRGs) to specific service lines with a few modifications. See Appendix 3 in for a cross walk of APR-DRGs to service lines. Staff uses an inpatient-like logic and assigns outpatient visits based on the reasons for acquiring services. For example, all services provided for emergency department (ED) patients are grouped under the ED service line. Appendix 5 provides the hierarchy of outpatient service lines.

Appendix 4 General Surgery ICD-10 Conversion Analyses



2015 to 2015 General Surgery Growth by Unique APR-DRG's

APR-DRG Description	Statewide Case Growth (Q1-Q2)	Statewide Case Growth (Q2-Q3)	Statewide Case Growth (Q3-Q4)	Statewide Case Growth (Q4-Q1)	Statewide Case Growth (Q1-Q2)	Statewide Case Growth (Q2-Q3)	Statewide Case Growth (Q3-Q4)	Statewide Case Growth (2015-2016)	CMI % Change 2015-2015
Extensive procedure unrelated to principal diagnosis	-5	2	79	34	4	-20	6	350	-14.75%
Infectious & parasitic diseases including HIV w O.R. procedure	-38	52	189	31	-54	138	-3	868	-2.61%
Laparoscopic cholecystectomy	-35	58	-88	71	-5	52	-32	158	-0.47%
Major biliary tract procedures	-2	12	26	-4	26	-10	26	168	-11.65%
Major stomach, esophageal & duodenal procedures	23	13	59	18	-19	31	-107	196	-15.13%
Nonextensive procedure unrelated to principal diagnosis	-26	5	60	11	-19	22	1	196	-6.80%
Other digestive system & abdominal procedures	-1	1	73	-3	-3	32	-24	239	-4.07%
Other hepatobiliary, pancreas & abdominal procedures	6	10	93	23	-3	13	-4	410	-17.93%
Other male reproductive system & related procedures	-16	8	93	2	24	-35	-5	284	-8.67%
Other skin, subcutaneous tissue & related procedures	-2	16	103	1	2	31	-22	389	-4.80%
Other small & large bowel procedures	17	-1	102	13	-10	-43	21	278	-9.36%
Procedure w diag of rehab, aftercare or oth contact w health service	-3	1	114	-30	-38	12	21	152	-7.31%
Skin graft for skin & subcutaneous tissue diagnoses	-12	21	67	-30	15	-26	-2	102	-4.87%
Total	**-94**	**198**	**970**	**137**	**-80**	**197**	**-124**	**3,790**	

ICD-10 Conversion time period

Appendix 5. APR-DRG and EAPG Service Line Mapping

a. **APR-DRG Service Line Map**

APR_DRG	DRG_Description	Type	Old_Serviceline	New_Serviceline
0	TOTAL KNEE REPLACEMENT (FROM OUTPATIENT)	S	Major Surgery_TKA	Orthopedic Surgery
1	LIVER TRANSPLANT &/OR INTESTINAL TRANSPLANT	S	Transplant Surgery	Transplant Surgery
2	HEART &/OR LUNG TRANSPLANT	S	Transplant Surgery	Transplant Surgery
4	TRACHEOSTOMY W MV 96+ HOURS W EXTENSIVE PROCEDURE	S	Ventilator Support	Ventilator Support
5	TRACHEOSTOMY W MV 96+ HOURS W/O EXTENSIVE PROCEDURE	S	Ventilator Support	Ventilator Support
6	PANCREAS TRANSPLANT	S	Transplant Surgery	Transplant Surgery
7	ALLOGENEIC BONE MARROW TRANSPLANT	S	Transplant Surgery	Transplant Surgery
8	AUTOLOGOUS BONE MARROW TRANSPLANT	S	Transplant Surgery	Transplant Surgery
9	EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO)	S	Ventilator Support	Ventilator Support
10	HEAD TRAUMA WITH DEEP COMA	M	Trauma	Trauma
20	CRANIOTOMY FOR TRAUMA	S	Neurological Surgery	Neurological Surgery
21	CRANIOTOMY EXCEPT FOR TRAUMA	S	Neurological Surgery	Neurological Surgery
22	VENTRICULAR SHUNT PROCEDURES	S	Neurological Surgery	Neurological Surgery
23	SPINAL PROCEDURES	S	Spinal Surgery	Spinal Surgery
24	EXTRACRANIAL VASCULAR PROCEDURES	S	Neurological Surgery	Neurological Surgery
26	OTHER NERVOUS SYSTEM & RELATED PROCEDURES	S	Neurological Surgery	Neurological Surgery
40	SPINAL DISORDERS & INJURIES	M	Neurology	Neurology
41	NERVOUS SYSTEM MALIGNANCY	M	Oncology	Oncology
42	DEGENERATIVE NERVOUS SYSTEM DISORDERS EXC MULT SCLEROSIS	M	Neurology	Neurology
43	MULTIPLE SCLEROSIS & OTHER DEMYELINATING DISEASES	M	Neurology	Neurology
44	INTRACRANIAL HEMORRHAGE	M	Neurology	Neurology
45	CVA & PRECEREBRAL OCCLUSION W INFARCT	M	Neurology	Neurology
46	NONSPECIFIC CVA & PRECEREBRAL OCCLUSION W/O INFARCT	M	Neurology	Neurology
47	TRANSIENT ISCHEMIA	M	Neurology	Neurology

48	PERIPHERAL, CRANIAL & AUTONOMIC NERVE DISORDERS	M	Neurology	Neurology
49	BACTERIAL & TUBERCULOUS INFECTIONS OF NERVOUS SYSTEM	M	Infectious Disease	Infectious Disease
50	NON-BACTERIAL INFECTIONS OF NERVOUS SYSTEM EXC VIRAL MENINGITIS	M	Infectious Disease	Infectious Disease
51	VIRAL MENINGITIS	M	Infectious Disease	Infectious Disease
52	ALTERATION IN CONSCIOUSNESS	M	Neurology	Neurology
53	SEIZURE	M	Neurology	Neurology
54	MIGRAINE & OTHER HEADACHES	M	Neurology	Neurology
55	HEAD TRAUMA W COMA >1 HR OR HEMORRHAGE	M	Neurology	Neurology
56	BRAIN CONTUSION/LACERATION & COMPLICATED SKULL FX, COMA < 1 HR OR NO COMA	M	Neurology	Neurology
57	CONCUSSION, CLOSED SKULL FX NOS,UNCOMPLICATED INTRACRANIAL INJURY, COMA < 1 HR OR NO COMA	M	Neurology	Neurology
58	OTHER DISORDERS OF NERVOUS SYSTEM	M	Neurology	Neurology
59	ANOXIC & OTHER SEVERE BRAIN DAMAGE	M	Neurology	Neurology
73	ORBIT AND EYE PROCEDURES	S	Ophthalmologic Surg	Ophthalmologic Surg
82	EYE INFECTIONS AND OTHER EYE DISORDERS	M	Ophthalmology	Ophthalmology
89	MAJOR CRANIAL/FACIAL BONE PROCEDURES	S	ENT Surgery	ENT Surgery
91	OTHER MAJOR HEAD & NECK PROCEDURES	S	ENT Surgery	ENT Surgery
92	FACIAL BONE PROCEDURES EXCEPT MAJOR CRANIAL/FACIAL BONE PROCEDURES	S	ENT Surgery	ENT Surgery
95	CLEFT LIP & PALATE REPAIR	S	ENT Surgery	ENT Surgery
97	TONSIL & ADENOID PROCEDURES	S	ENT Surgery	ENT Surgery
98	OTHER EAR, NOSE, MOUTH & THROAT PROCEDURES	S	ENT Surgery	ENT Surgery
110	EAR, NOSE, MOUTH, THROAT, CRANIAL/FACIAL MALIGNANCIES	M	Oncology	Oncology
111	VERTIGO & OTHER LABYRINTH DISORDERS	M	Otolaryngology	General Medicine
113	INFECTIONS OF UPPER RESPIRATORY TRACT	M	Otolaryngology	General Medicine
114	DENTAL DISEASES AND DISORDERS	M	Dental	General Medicine
115	OTHER EAR, NOSE, MOUTH,THROAT & CRANIAL/FACIAL DIAGNOSES	M	Otolaryngology	General Medicine

120	MAJOR RESPIRATORY & CHEST PROCEDURES	S	Thoracic Surgery	Thoracic Surgery
121	OTHER RESPIRATORY & CHEST PROCEDURES	S	Thoracic Surgery	Thoracic Surgery
130	RESPIRATORY SYSTEM DIAGNOSIS W VENTILATOR SUPPORT 96+ HOURS	M	Pulmonary	Pulmonary
131	CYSTIC FIBROSIS - PULMONARY DISEASE	M	Pulmonary	Pulmonary
132	BPD & OTH CHRONIC RESPIRATORY DISEASES ARISING IN PERINATAL PERIOD	M	Neonatology	Neonatology
133	RESPIRATORY FAILURE	M	Pulmonary	Pulmonary
134	PULMONARY EMBOLISM	M	Pulmonary	Pulmonary
135	MAJOR CHEST & RESPIRATORY TRAUMA	M	Trauma	Trauma
136	RESPIRATORY MALIGNANCY	M	Oncology	Oncology
137	MAJOR RESPIRATORY INFECTIONS & INFLAMMATIONS	M	Pulmonary	Pulmonary
138	BRONCHIOLITIS & RSV PNEUMONIA	M	Pulmonary	Pulmonary
139	OTHER PNEUMONIA	M	Pulmonary	Pulmonary
140	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	M	Pulmonary	Pulmonary
141	ASTHMA	M	Pulmonary	Pulmonary
142	INTERSTITIAL & ALVEOLAR LUNG DISEASES	M	Pulmonary	Pulmonary
143	OTHER RESPIRATORY DIAGNOSES EXCEPT SIGNS, SYMPTOMS & MINOR DIAGNOSES	M	Pulmonary	Pulmonary
144	RESPIRATORY SIGNS, SYMPTOMS & MINOR DIAGNOSES	M	Pulmonary	Pulmonary
145	ACUTE BRONCHITIS AND RELATED SYMPTOMS	M	Pulmonary	Pulmonary
160	MAJOR CARDIOTHORACIC REPAIR OF HEART ANOMALY	S	Cardiothoracic Surgery	Cardiothoracic Surgery
161	CARDIAC DEFIBRILLATOR & HEART ASSIST IMPLANT	S	Cardiothoracic Surgery	Cardiothoracic Surgery
162	CARDIAC VALVE PROCEDURES W AMI OR COMPLEX PDX	S	Cardiothoracic Surgery	Cardiothoracic Surgery
163	CARDIAC VALVE PROCEDURES W/O AMI OR COMPLEX PDX	S	Cardiothoracic Surgery	Cardiothoracic Surgery
165	CORONARY BYPASS W AMI OR COMPLEX PDX	S	Cardiothoracic Surgery	Cardiothoracic Surgery
166	CORONARY BYPASS W/O AMI OR COMPLEX PDX	S	Cardiothoracic Surgery	Cardiothoracic Surgery
167	OTHER CARDIOTHORACIC & THORACIC VASCULAR PROCEDURES	S	Cardiothoracic Surgery	Cardiothoracic Surgery
169	MAJOR ABDOMINAL VASCULAR PROCEDURES	S	Vascular Surgery	Vascular Surgery

170	PERMANENT CARDIAC PACEMAKER IMPLANT W AMI, HEART FAILURE OR SHOCK	S	EP/Chronic Rhythm Mgmt	Invasive Cardiology
171	PERM CARDIAC PACEMAKER IMPLANT W/O AMI, HEART FAILURE OR SHOCK	S	EP/Chronic Rhythm Mgmt	Invasive Cardiology
174	PERCUTANEOUS CORONARY INTERVENTION W AMI	S	Invasive Cardiology	Invasive Cardiology
175	PERCUTANEOUS CORONARY INTERVENTION W/O AMI	S	Invasive Cardiology	Invasive Cardiology
176	CARDIAC PACEMAKER & DEFIBRILLATOR DEVICE REPLACEMENT	S	EP/Chronic Rhythm Mgmt	Invasive Cardiology
177	CARDIAC PACEMAKER & DEFIBRILLATOR REVISION EXCEPT DEVICE REPLACEMENT	S	EP/Chronic Rhythm Mgmt	Invasive Cardiology
180	OTHER CIRCULATORY SYSTEM PROCEDURES	S	Cardiothoracic Surgery	Cardiothoracic Surgery
181	LOWER EXTREMITY ARTERIAL PROCEDURES	S	Vascular Surgery	Vascular Surgery
182	OTHER PERIPHERAL VASCULAR PROCEDURES	S	Vascular Surgery	Vascular Surgery
190	ACUTE MYOCARDIAL INFARCTION	M	Myocardial Infarction	Cardiology
191	CARDIAC CATHETERIZATION FOR CORONARY ARTERY DISEASE	M	Invasive Cardiology	Invasive Cardiology
192	CARDIAC CATHETERIZATION FOR OTHER NON-CORONARY CONDITIONS	M	Invasive Cardiology	Invasive Cardiology
193	ACUTE & SUBACUTE ENDOCARDITIS	M	Cardiology	Cardiology
194	HEART FAILURE	M	Cardiology	Cardiology
196	CARDIAC ARREST & SHOCK	M	Cardiology	Cardiology
197	PERIPHERAL & OTHER VASCULAR DISORDERS	M	General Medicine	General Medicine
198	ANGINA PECTORIS & CORONARY ATHEROSCLEROSIS	M	Cardiology	Cardiology
199	HYPERTENSION	M	Cardiology	Cardiology
200	CARDIAC STRUCTURAL & VALVULAR DISORDERS	M	Cardiology	Cardiology
201	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS	M	Cardiology	Cardiology
203	CHEST PAIN	M	Cardiology	Cardiology
204	SYNCOPE & COLLAPSE	M	Cardiology	Cardiology
205	CARDIOMYOPATHY	M	Cardiology	Cardiology
206	MALFUNCTION,REACTION,COMPLICATION OF CARDIAC/VASC DEVICE OR PROCEDURE	M	Cardiology	Cardiology
207	OTHER CIRCULATORY SYSTEM DIAGNOSES	M	Cardiology	Cardiology
220	MAJOR STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES	S	General Surgery	General Surgery

222	OTHER STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES	S	General Surgery	General Surgery
223	OTHER SMALL & LARGE BOWEL PROCEDURES	S	General Surgery	General Surgery
224	PERITONEAL ADHESIOLYSIS	S	General Surgery	General Surgery
226	ANAL PROCEDURES	S	General Surgery	General Surgery
227	HERNIA PROCEDURES EXCEPT INGUINAL, FEMORAL & UMBILICAL	S	General Surgery	General Surgery
228	INGUINAL, FEMORAL & UMBILICAL HERNIA PROCEDURES	S	General Surgery	General Surgery
229	OTHER DIGESTIVE SYSTEM & ABDOMINAL PROCEDURES	S	General Surgery	General Surgery
230	MAJOR SMALL BOWEL PROCEDURES	S	General Surgery	General Surgery
231	MAJOR LARGE BOWEL PROCEDURES	S	General Surgery	General Surgery
232	GASTRIC FUNDOPLICATION	S	General Surgery	General Surgery
233	APPENDECTOMY WITH COMPLEX PRINCIPAL DIAGNOSIS	S	General Surgery	General Surgery
234	APPENDECTOMY WITHOUT COMPLEX PRINCIPAL DIAGNOSIS	S	General Surgery	General Surgery
240	DIGESTIVE MALIGNANCY	M	Oncology	Oncology
241	PEPTIC ULCER & GASTRITIS	M	Gastroenterology	Gastroenterology
242	MAJOR ESOPHAGEAL DISORDERS	M	Gastroenterology	Gastroenterology
243	OTHER ESOPHAGEAL DISORDERS	M	Gastroenterology	Gastroenterology
244	DIVERTICULITIS & DIVERTICULOSIS	M	Gastroenterology	Gastroenterology
245	INFLAMMATORY BOWEL DISEASE	M	Gastroenterology	Gastroenterology
246	GASTROINTESTINAL VASCULAR INSUFFICIENCY	M	Gastroenterology	Gastroenterology
247	INTESTINAL OBSTRUCTION	M	Gastroenterology	Gastroenterology
248	MAJOR GASTROINTESTINAL & PERITONEAL INFECTIONS	M	Gastroenterology	Gastroenterology
249	OTHER GASTROENTERITIS, NAUSEA & VOMITING	M	Gastroenterology	Gastroenterology
251	ABDOMINAL PAIN	M	Gastroenterology	Gastroenterology
252	MALFUNCTION, REACTION & COMPLICATION OF GI DEVICE OR PROCEDURE	M	Gastroenterology	Gastroenterology
253	OTHER & UNSPECIFIED GASTROINTESTINAL HEMORRHAGE	M	Gastroenterology	Gastroenterology

254	OTHER DIGESTIVE SYSTEM DIAGNOSES	M	Gastroenterology	Gastroenterology
260	MAJOR PANCREAS, LIVER & SHUNT PROCEDURES	S	General Surgery	General Surgery
261	MAJOR BILIARY TRACT PROCEDURES	S	General Surgery	General Surgery
263	CHOLECYSTECTOMY	S	General Surgery	General Surgery
264	OTHER HEPATOBILIARY, PANCREAS & ABDOMINAL PROCEDURES	S	General Surgery	General Surgery
279	HEPATIC COMA & OTHER MAJOR ACUTE LIVER DISORDERS	M	Gastroenterology	Gastroenterology
280	ALCOHOLIC LIVER DISEASE	M	Gastroenterology	Gastroenterology
281	MALIGNANCY OF HEPATOBILIARY SYSTEM & PANCREAS	M	Oncology	Oncology
282	DISORDERS OF PANCREAS EXCEPT MALIGNANCY	M	Gastroenterology	Gastroenterology
283	OTHER DISORDERS OF THE LIVER	M	Gastroenterology	Gastroenterology
284	DISORDERS OF GALLBLADDER & BILIARY TRACT	M	Gastroenterology	Gastroenterology
301	HIP JOINT REPLACEMENT	S	Orthopedic Surgery	Orthopedic Surgery
302	KNEE JOINT REPLACEMENT	S	Orthopedic Surgery	Orthopedic Surgery
303	DORSAL & LUMBAR FUSION PROC FOR CURVATURE OF BACK	S	Orthopedic Surgery	Orthopedic Surgery
304	DORSAL & LUMBAR FUSION PROC EXCEPT FOR CURVATURE OF BACK	S	Orthopedic Surgery	Orthopedic Surgery
305	AMPUTATION OF LOWER LIMB EXCEPT TOES	S	Orthopedic Surgery	Orthopedic Surgery
308	HIP & FEMUR FRACTURE REPAIR	S	Orthopedic Surgery	Orthopedic Surgery
309	OTHER SIGNIFICANT HIP & FEMUR SURGERY	S	Orthopedic Surgery	Orthopedic Surgery
310	INTERVERTEBRAL DISC EXCISION & DECOMPRESSION	S	Orthopedic Surgery	Orthopedic Surgery
312	SKIN GRAFT, EXCEPT HAND, FOR MUSCULOSKELETAL & CONNECTIVE TISSUE DIAGNOSES	S	Orthopedic Surgery	Orthopedic Surgery
313	KNEE & LOWER LEG PROCEDURES EXCEPT FOOT	S	Orthopedic Surgery	Orthopedic Surgery
314	FOOT & TOE PROCEDURES	S	Orthopedic Surgery	Orthopedic Surgery
315	SHOULDER, UPPER ARM & FOREARM PROCEDURES EXCEPT JOINT REPLACEMENT	S	Orthopedic Surgery	Orthopedic Surgery

316	HAND & WRIST PROCEDURES	S	Orthopedic Surgery	Orthopedic Surgery
317	TENDON, MUSCLE & OTHER SOFT TISSUE PROCEDURES	S	Orthopedic Surgery	Orthopedic Surgery
320	OTHER MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE PROCEDURES	S	Orthopedic Surgery	Orthopedic Surgery
321	CERVICAL SPINAL FUSION & OTHER BACK/NECK PROC EXC DISC EXCIS/DECOMP	S	Spinal Surgery	Spinal Surgery
322	SHOULDER & ELBOW JOINT REPLACEMENT	S	Orthopedic Surgery	Orthopedic Surgery
340	FRACTURE OF FEMUR	M	Orthopedics	General Medicine
341	FRACTURE OF PELVIS OR DISLOCATION OF HIP	M	Orthopedics	General Medicine
342	FRACTURES & DISLOCATIONS EXCEPT FEMUR, PELVIS & BACK	M	Orthopedics	General Medicine
343	MUSCULOSKELETAL MALIGNANCY & PATHOL FRACTURE D/T MUSCSKEL MALIG	M	Oncology	Oncology
344	OSTEOMYELITIS, SEPTIC ARTHRITIS & OTHER MUSCULOSKELETAL INFECTIONS	M	Infectious Disease	Infectious Disease
346	CONNECTIVE TISSUE DISORDERS	M	Rheumatology	General Medicine
347	OTHER BACK & NECK DISORDERS, FRACTURES & INJURIES	M	Orthopedics	General Medicine
349	MALFUNCTION, REACTION, COMPLIC OF ORTHOPEDIC DEVICE OR PROCEDURE	M	Orthopedics	General Medicine
351	OTHER MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE DIAGNOSES	M	Rheumatology	General Medicine
361	SKIN GRAFT FOR SKIN & SUBCUTANEOUS TISSUE DIAGNOSES	S	General Surgery	General Surgery
362	MASTECTOMY PROCEDURES	S	General Surgery	General Surgery
363	BREAST PROCEDURES EXCEPT MASTECTOMY	S	General Surgery	General Surgery
364	OTHER SKIN, SUBCUTANEOUS TISSUE & RELATED PROCEDURES	S	General Surgery	General Surgery
380	SKIN ULCERS	M	Dermatology	General Medicine
381	MAJOR SKIN DISORDERS	M	Dermatology	General Medicine
382	MALIGNANT BREAST DISORDERS	M	Oncology	Oncology
383	CELLULITIS & OTHER SKIN INFECTIONS	M	Infectious Disease	Infectious Disease
384	CONTUSION, OPEN WOUND & OTHER TRAUMA TO SKIN & SUBCUTANEOUS TISSUE	M	Dermatology	General Medicine

385	OTHER SKIN, SUBCUTANEOUS TISSUE & BREAST DISORDERS	M	Dermatology	General Medicine
401	ADRENAL PROCEDURES	S	Endocrinology Surgery	Endocrinology Surgery
403	PROCEDURES FOR OBESITY	S	Endocrinology Surgery	Endocrinology Surgery
404	THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES	S	Endocrinology Surgery	Endocrinology Surgery
405	OTHER PROCEDURES FOR ENDOCRINE, NUTRITIONAL & METABOLIC DISORDERS	S	Endocrinology Surgery	Endocrinology Surgery
420	DIABETES	M	Diabetes	General Medicine
421	MALNUTRITION, FAILURE TO THRIVE & OTHER NUTRITIONAL DISORDERS	M	Endocrinology	General Medicine
422	HYPOVOLEMIA & RELATED ELECTROLYTE DISORDERS	M	Endocrinology	General Medicine
423	INBORN ERRORS OF METABOLISM	M	Endocrinology	General Medicine
424	OTHER ENDOCRINE DISORDERS	M	Endocrinology	General Medicine
425	OTHER NON-HYPOVOLEMIC ELECTROLYTE DISORDERS	M	Endocrinology	General Medicine
426	NON-HYPOVOLEMIC SODIUM DISORDERS	M	Endocrinology	General Medicine
427	THYROID DISORDERS	M	Endocrinology	General Medicine
440	KIDNEY TRANSPLANT	S	Transplant Surgery	Transplant Surgery
441	MAJOR BLADDER PROCEDURES	S	Urological Surgery	Urological Surgery
442	KIDNEY & URINARY TRACT PROCEDURES FOR MALIGNANCY	S	Oncology	Oncology
443	KIDNEY & URINARY TRACT PROCEDURES FOR NONMALIGNANCY	S	Urological Surgery	Urological Surgery
444	RENAL DIALYSIS ACCESS DEVICE AND VESSEL REPAIR	S	Urological Surgery	Urological Surgery
445	OTHER BLADDER PROCEDURES	S	Urological Surgery	Urological Surgery
446	URETHRAL & TRANSURETHRAL PROCEDURES	S	Urological Surgery	Urological Surgery
447	OTHER KIDNEY, URINARY TRACT & RELATED PROCEDURES	S	Urological Surgery	Urological Surgery
461	KIDNEY & URINARY TRACT MALIGNANCY	M	Oncology	Oncology
462	NEPHRITIS & NEPHROSIS	M	Nephrology	General Medicine
463	KIDNEY & URINARY TRACT INFECTIONS	M	Nephrology	General Medicine

465	URINARY STONES & ACQUIRED UPPER URINARY TRACT OBSTRUCTION	M	Urology	Urology
466	MALFUNCTION, REACTION, COMPLIC OF GENITOURINARY DEVICE OR PROC	M	Nephrology	General Medicine
468	OTHER KIDNEY & URINARY TRACT DIAGNOSES, SIGNS & SYMPTOMS	M	Nephrology	General Medicine
469	ACUTE KIDNEY INJURY	M	Nephrology	General Medicine
470	CHRONIC KIDNEY DISEASE	M	Nephrology	General Medicine
480	MAJOR MALE PELVIC PROCEDURES	S	Urological Surgery	Urological Surgery
482	TRANSURETHRAL PROSTATECTOMY	S	Urological Surgery	Urological Surgery
483	PENIS, TESTES & SCROTAL PROCEDURES	S	Urological Surgery	Urological Surgery
484	OTHER MALE REPRODUCTIVE SYSTEM & RELATED PROCEDURES	S	General Surgery	General Surgery
500	MALIGNANCY, MALE REPRODUCTIVE SYSTEM	M	Oncology	Oncology
501	MALE REPRODUCTIVE SYSTEM DIAGNOSES EXCEPT MALIGNANCY	M	Urology	Urology
510	PELVIC EVISCERATION, RADICAL HYSTERECTOMY & OTHER RADICAL GYN PROCS	S	Gynecological Surg	Gynecological Surg
511	UTERINE & ADNEXA PROCEDURES FOR OVARIAN & ADNEXAL MALIGNANCY	S	Oncology	Oncology
512	UTERINE & ADNEXA PROCEDURES FOR NON-OVARIAN & NON-ADNEXAL MALIG	S	Oncology	Oncology
513	UTERINE & ADNEXA PROCEDURES FOR NON-MALIGNANCY EXCEPT LEIOMYOMA	S	Gynecological Surg	Gynecological Surg
514	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	S	Gynecological Surg	Gynecological Surg
517	DILATION & CURETTAGE FOR NON-OBSTETRIC DIAGNOSES	S	Gynecological Surg	Gynecological Surg
518	OTHER FEMALE REPRODUCTIVE SYSTEM & RELATED PROCEDURES	S	Gynecological Surg	Gynecological Surg
519	UTERINE & ADNEXA PROCEDURES FOR LEIOMYOMA	S	Gynecological Surg	Gynecological Surg
530	FEMALE REPRODUCTIVE SYSTEM MALIGNANCY	M	Oncology	Oncology
531	FEMALE REPRODUCTIVE SYSTEM INFECTIONS	M	Gynecology	OB/GYN
532	MENSTRUAL & OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS	M	Gynecology	OB/GYN
540	CESAREAN DELIVERY	S	Obstetrics/Delivery	OB/GYN

541	VAGINAL DELIVERY W STERILIZATION &/OR D&C	S	Obstetrics/Delivery	OB/GYN
542	VAGINAL DELIVERY W COMPLICATING PROCEDURES EXC STERILIZATION &/OR D&C	S	Obstetrics/Delivery	OB/GYN
544	D&C, ASPIRATION CURETTAGE OR HYSTEROTOMY FOR OBSTETRIC DIAGNOSES	S	Other Obstetrics	OB/GYN
545	ECTOPIC PREGNANCY PROCEDURE	S	Gynecological Surg	Gynecological Surg
546	OTHER O.R. PROC FOR OBSTETRIC DIAGNOSES EXCEPT DELIVERY DIAGNOSES	S	Other Obstetrics	OB/GYN
560	VAGINAL DELIVERY	M	Obstetrics/Delivery	OB/GYN
561	POSTPARTUM & POST ABORTION DIAGNOSES W/O PROCEDURE	M	Other Obstetrics	OB/GYN
563	PRETERM LABOR	M	Other Obstetrics	OB/GYN
564	ABORTION W/O D&C, ASPIRATION CURETTAGE OR HYSTEROTOMY	M	Other Obstetrics	OB/GYN
565	FALSE LABOR	M	Other Obstetrics	OB/GYN
566	OTHER ANTEPARTUM DIAGNOSES	M	Other Obstetrics	OB/GYN
580	NEONATE, TRANSFERRED <5 DAYS OLD, NOT BORN HERE	M	Neonatology	Neonatology
581	NEONATE, TRANSFERRED < 5 DAYS OLD, BORN HERE	M	Neonatology	Neonatology
583	NEONATE W ECMO	S	Neonatology	Neonatology
588	NEONATE BWT <1500G W MAJOR PROCEDURE	S	Neonatology	Neonatology
589	NEONATE BWT <500G OR GA <24 WEEKS	M	Neonatology	Neonatology
591	NEONATE BIRTHWT 500-749G W/O MAJOR PROCEDURE	M	Neonatology	Neonatology
593	NEONATE BIRTHWT 750-999G W/O MAJOR PROCEDURE	M	Neonatology	Neonatology
602	NEONATE BWT 1000-1249G W RESP DIST SYND/OTH MAJ RESP OR MAJ ANOM	M	Neonatology	Neonatology
603	NEONATE BIRTHWT 1000-1249G W OR W/O OTHER SIGNIFICANT CONDITION	M	Neonatology	Neonatology
607	NEONATE BWT 1250-1499G W RESP DIST SYND/OTH MAJ RESP OR MAJ ANOM	M	Neonatology	Neonatology
608	NEONATE BWT 1250-1499G W OR W/O OTHER SIGNIFICANT CONDITION	M	Neonatology	Neonatology
609	NEONATE BWT 1500-2499G W MAJOR PROCEDURE	S	Neonatology	Neonatology
611	NEONATE BIRTHWT 1500-1999G W MAJOR ANOMALY	M	Neonatology	Neonatology

612	NEONATE BWT 1500-1999G W RESP DIST SYND/OTH MAJ RESP COND	M	Neonatology	Neonatology
613	NEONATE BIRTHWT 1500-1999G W CONGENITAL/PERINATAL INFECTION	M	Neonatology	Neonatology
614	NEONATE BWT 1500-1999G W OR W/O OTHER SIGNIFICANT CONDITION	M	Neonatology	Neonatology
621	NEONATE BWT 2000-2499G W MAJOR ANOMALY	M	Neonatology	Neonatology
622	NEONATE BWT 2000-2499G W RESP DIST SYND/OTH MAJ RESP COND	M	Neonatology	Neonatology
623	NEONATE BWT 2000-2499G W CONGENITAL/PERINATAL INFECTION	M	Neonatology	Neonatology
625	NEONATE BWT 2000-2499G W OTHER SIGNIFICANT CONDITION	M	Neonatology	Neonatology
626	NEONATE BWT 2000-2499G, NORMAL NEWBORN OR NEONATE W OTHER PROBLEM	M	Neonatology	Neonatology
630	NEONATE BIRTHWT >2499G W MAJOR CARDIOVASCULAR PROCEDURE	S	Neonatology	Neonatology
631	NEONATE BIRTHWT >2499G W OTHER MAJOR PROCEDURE	S	Neonatology	Neonatology
633	NEONATE BIRTHWT >2499G W MAJOR ANOMALY	M	Neonatology	Neonatology
634	NEONATE, BIRTHWT >2499G W RESP DIST SYND/OTH MAJ RESP COND	M	Neonatology	Neonatology
636	NEONATE BIRTHWT >2499G W CONGENITAL/PERINATAL INFECTION	M	Neonatology	Neonatology
639	NEONATE BIRTHWT >2499G W OTHER SIGNIFICANT CONDITION	M	Neonatology	Neonatology
640	NEONATE BIRTHWT >2499G, NORMAL NEWBORN OR NEONATE W OTHER PROBLEM	M	Normal Newborn	Neonatology
650	SPLENECTOMY	S	General Surgery	General Surgery
651	OTHER PROCEDURES OF BLOOD & BLOOD-FORMING ORGANS	S	General Surgery	General Surgery
660	MAJOR HEMATOLOGIC/IMMUNOLOGIC DIAG EXC SICKLE CELL CRISIS & COAGUL	M	Hematology	Hematology
661	COAGULATION & PLATELET DISORDERS	M	Hematology	Hematology
662	SICKLE CELL ANEMIA CRISIS	M	Hematology	Hematology
663	OTHER ANEMIA & DISORDERS OF BLOOD & BLOOD-FORMING ORGANS	M	Hematology	Hematology
680	MAJOR O.R. PROCEDURES FOR LYMPHATIC/HEMATOPOIETIC/OTHER NEOPLASMS	S	General Surgery	General Surgery
681	OTHER O.R. PROCEDURES FOR LYMPHATIC/HEMATOPOIETIC/OTHER NEOPLASMS	S	General Surgery	General Surgery

690	ACUTE LEUKEMIA	M	Oncology	Oncology
691	LYMPHOMA, MYELOMA & NON-ACUTE LEUKEMIA	M	Oncology	Oncology
692	RADIOTHERAPY	M	Oncology	Oncology
694	LYMPHATIC & OTHER MALIGNANCIES & NEOPLASMS OF UNCERTAIN BEHAVIOR	M	Oncology	Oncology
695	CHEMOTHERAPY FOR ACUTE LEUKEMIA	M	Oncology	Oncology
696	OTHER CHEMOTHERAPY	M	Oncology	Oncology
710	INFECTIOUS & PARASITIC DISEASES INCLUDING HIV W O.R. PROCEDURE	S	General Surgery	General Surgery
711	POST-OP, POST-TRAUMA, OTHER DEVICE INFECTIONS W O.R. PROCEDURE	S	General Surgery	General Surgery
720	SEPTICEMIA & DISSEMINATED INFECTIONS	M	Infectious Disease	Infectious Disease
721	POST-OPERATIVE, POST-TRAUMATIC, OTHER DEVICE INFECTIONS	M	General Surgery	General Surgery
722	FEVER	M	Infectious Disease	Infectious Disease
723	VIRAL ILLNESS	M	Infectious Disease	Infectious Disease
724	OTHER INFECTIOUS & PARASITIC DISEASES	M	Infectious Disease	Infectious Disease
740	MENTAL ILLNESS DIAGNOSIS W O.R. PROCEDURE	S	General Surgery	General Surgery
750	SCHIZOPHRENIA	M	Psychiatry	Psychiatry
751	MAJOR DEPRESSIVE DISORDERS & OTHER/UNSPECIFIED PSYCHOSES	M	Psychiatry	Psychiatry
752	DISORDERS OF PERSONALITY & IMPULSE CONTROL	M	Psychiatry	Psychiatry
753	BIPOLAR DISORDERS	M	Psychiatry	Psychiatry
754	DEPRESSION EXCEPT MAJOR DEPRESSIVE DISORDER	M	Psychiatry	Psychiatry
755	ADJUSTMENT DISORDERS & NEUROSES EXCEPT DEPRESSIVE DIAGNOSES	M	Psychiatry	Psychiatry
756	ACUTE ANXIETY & DELIRIUM STATES	M	Psychiatry	Psychiatry
757	ORGANIC MENTAL HEALTH DISTURBANCES	M	Psychiatry	Psychiatry
758	BEHAVIORAL DISORDERS	M	Psychiatry	Psychiatry
759	EATING DISORDERS	M	Psychiatry	Psychiatry
760	OTHER MENTAL HEALTH DISORDERS	M	Psychiatry	Psychiatry
770	DRUG & ALCOHOL ABUSE OR DEPENDENCE, LEFT AGAINST MEDICAL ADVICE	M	Substance Abuse	Psychiatry
772	ALCOHOL & DRUG DEPENDENCE W REHAB OR REHAB/DETOX THERAPY	M	Substance Abuse	Psychiatry

773	OPIOID ABUSE & DEPENDENCE	M	Substance Abuse	Psychiatry
774	COCAINE ABUSE & DEPENDENCE	M	Substance Abuse	Psychiatry
775	ALCOHOL ABUSE & DEPENDENCE	M	Substance Abuse	Psychiatry
776	OTHER DRUG ABUSE & DEPENDENCE	M	Substance Abuse	Psychiatry
792	EXTENSIVE OR PROCEDURES FOR OTHER COMPLICATIONS OF TREATMENT	S	Injuries/complic. of prior care	Injuries/complic. of prior care
793	MODERATELY EXTENSIVE OR PROCEDURES FOR OTHER COMPLICATIONS OF TREATMENT	S	Injuries/complic. of prior care	Injuries/complic. of prior care
794	NON-EXTENSIVE OR PROCEDURES FOR OTHER COMPLICATIONS OF TREATMENT	S	Injuries/complic. of prior care	Injuries/complic. of prior care
810	HEMORRHAGE OR HEMATOMA DUE TO COMPLICATION	M	Injuries/complic. of prior care	Injuries/complic. of prior care
811	ALLERGIC REACTIONS	M	General Medicine	General Medicine
812	POISONING OF MEDICINAL AGENTS	M	General Medicine	General Medicine
813	OTHER COMPLICATIONS OF TREATMENT	M	Injuries/complic. of prior care	Injuries/complic. of prior care
815	OTHER INJURY, POISONING & TOXIC EFFECT DIAGNOSES	M	General Medicine	General Medicine
816	TOXIC EFFECTS OF NON-MEDICINAL SUBSTANCES	M	General Medicine	General Medicine
817	OVERDOSE	M	General Medicine	General Medicine
841	EXTENSIVE 3RD DEGREE BURNS W SKIN GRAFT	S	General Medicine	General Surgery
842	BURNS WITH SKIN GRAFT EXCEPT EXTENSIVE 3RD DEGREE BURNS	S	General Medicine	General Surgery
843	EXTENSIVE 3RD DEGREE OR FULL THICKNESS BURNS W/O SKIN GRAFT	M	General Medicine	General Medicine
844	PARTIAL THICKNESS BURNS W/O SKIN GRAFT	M	General Medicine	General Medicine
850	PROCEDURE W DIAG OF REHAB, AFTERCARE OR OTH CONTACT W HEALTH SERVICE	S	General Surgery	General Surgery
860	REHABILITATION	M	Rehabilitation	Rehabilitation
861	SIGNS, SYMPTOMS & OTHER FACTORS INFLUENCING HEALTH STATUS	M	General Medicine	General Medicine
862	OTHER AFTERCARE & CONVALESCENCE	M	General Medicine	General Medicine
863	NEONATAL AFTERCARE	M	Neonatology	Neonatology
890	HIV W MULTIPLE MAJOR HIV RELATED CONDITIONS	M	HIV	Infectious Disease
892	HIV W MAJOR HIV RELATED CONDITION	M	HIV	Infectious Disease

893	HIV W MULTIPLE SIGNIFICANT HIV RELATED CONDITIONS	M	HIV	Infectious Disease
894	HIV W ONE SIGNIF HIV COND OR W/O SIGNIF RELATED COND	M	HIV	Infectious Disease
910	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	S	Trauma	Trauma
911	EXTENSIVE ABDOMINAL/THORACIC PROCEDURES FOR MULT SIGNIFICANT TRAUMA	S	Trauma	Trauma
912	MUSCULOSKELETAL & OTHER PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	S	Trauma	Trauma
930	MULTIPLE SIGNIFICANT TRAUMA W/O O.R. PROCEDURE	M	Trauma	Trauma
950	EXTENSIVE PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS	S	General Surgery	General Surgery
951	MODERATELY EXTENSIVE PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS	S	General Surgery	General Surgery
952	NONEXTENSIVE PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS	S	General Surgery	General Surgery
955	PRINCIPAL DIAGNOSIS INVALID AS DISCHARGE DIAGNOSIS		Invalid	Invalid
956	UNGROUPABLE		Ungroupable	Ungroupable

b. **EAPG Service Line Maps**

HIGHTYPE	HIGHTYPE_Desc	HIWTAPG	apg_desc	New_Service
1	Significant Procedures	1	PHOTOCHEMOTHERAPY	Other
1	Significant Procedures	2	SUPERFICIAL NEEDLE BIOPSY AND ASPIRATION	Other
1	Significant Procedures	3	LEVEL I SKIN INCISION AND DRAINAGE	Minor Surgery
1	Significant Procedures	4	LEVEL II SKIN INCISION AND DRAINAGE	Minor Surgery
1	Significant Procedures	5	NAIL PROCEDURES	Minor Surgery
1	Significant Procedures	6	LEVEL I SKIN DEBRIDEMENT AND DESTRUCTION	Minor Surgery
1	Significant Procedures	7	LEVEL II SKIN DEBRIDEMENT AND DESTRUCTION	Minor Surgery
1	Significant Procedures	8	LEVEL III SKIN DEBRIDEMENT AND DESTRUCTION	Minor Surgery

1	Significant Procedures	9	LEVEL I EXCISION AND BIOPSY OF SKIN AND SOFT TISSUE	Minor Surgery
1	Significant Procedures	10	LEVEL II EXCISION AND BIOPSY OF SKIN AND SOFT TISSUE	Minor Surgery
1	Significant Procedures	11	LEVEL III EXCISION AND BIOPSY OF SKIN AND SOFT TISSUE	Major Surgery
1	Significant Procedures	12	LEVEL I SKIN REPAIR	Minor Surgery
1	Significant Procedures	13	LEVEL II SKIN REPAIR	Minor Surgery
1	Significant Procedures	14	LEVEL III SKIN REPAIR	Major Surgery
1	Significant Procedures	15	LEVEL IV SKIN REPAIR	Major Surgery
1	Significant Procedures	20	LEVEL I BREAST PROCEDURES	Minor Surgery
1	Significant Procedures	21	LEVEL II BREAST PROCEDURES	Major Surgery
1	Significant Procedures	22	LEVEL III BREAST PROCEDURES	Major Surgery
1	Significant Procedures	30	LEVEL I MUSCULOSKELETAL PROCEDURES EXCLUDING HAND AND FOOT	Major Surgery
1	Significant Procedures	31	LEVEL II MUSCULOSKELETAL PROCEDURES EXCLUDING HAND AND FOOT	Major Surgery
1	Significant Procedures	32	LEVEL III MUSCULOSKELETAL PROCEDURES EXCLUDING HAND AND FOOT	Major Surgery
1	Significant Procedures	33	LEVEL I HAND PROCEDURES	Minor Surgery
1	Significant Procedures	34	LEVEL II HAND PROCEDURES	Major Surgery
1	Significant Procedures	35	LEVEL I FOOT PROCEDURES	Major Surgery
1	Significant Procedures	36	LEVEL II FOOT PROCEDURES	Major Surgery
1	Significant Procedures	37	LEVEL I ARTHROSCOPY	Major Surgery
1	Significant Procedures	38	LEVEL II ARTHROSCOPY	Major Surgery
1	Significant Procedures	39	REPLACEMENT OF CAST	Other
1	Significant Procedures	40	SPLINT, STRAPPING AND CAST REMOVAL	Other
1	Significant Procedures	41	CLOSED TREATMENT FX & DISLOCATION OF FINGER, TOE & TRUNK	Minor Surgery
1	Significant Procedures	42	CLOSED TREATMENT FX & DISLOCATION EXC FINGER, TOE & TRUNK	Minor Surgery

1	Significant Procedures	43	OPEN OR PERCUTANEOUS TREATMENT OF FRACTURES	Major Surgery
1	Significant Procedures	44	BONE OR JOINT MANIPULATION UNDER ANESTHESIA	Minor Surgery
1	Significant Procedures	45	BUNION PROCEDURES	Major Surgery
1	Significant Procedures	46	LEVEL I ARTHROPLASTY	Major Surgery
1	Significant Procedures	47	LEVEL II ARTHROPLASTY	Major Surgery
1	Significant Procedures	48	HAND AND FOOT TENOTOMY	Major Surgery
1	Significant Procedures	49	ARTHROCENTESIS AND LIGAMENT OR TENDON INJECTION	Minor Surgery
1	Significant Procedures	60	PULMONARY TESTS	Other
1	Significant Procedures	61	NEEDLE AND CATHETER BIOPSY, ASPIRATION, LAVAGE AND INTUBATION	Minor Surgery
1	Significant Procedures	62	LEVEL I ENDOSCOPY OF THE UPPER AIRWAY	Minor Surgery
1	Significant Procedures	63	LEVEL II ENDOSCOPY OF THE UPPER AIRWAY	Major Surgery
1	Significant Procedures	64	ENDOSCOPY OF THE LOWER AIRWAY	Major Surgery
5	Rehab and Therapy	65	RESPIRATORY THERAPY	Rehab and Therapy
5	Rehab and Therapy	66	PULMONARY REHABILITATION	Rehab and Therapy
1	Significant Procedures	67	VENTILATION ASSISTANCE AND MANAGEMENT	Other
1	Significant Procedures	80	EXERCISE TOLERANCE TESTS	Cardiovascular
1	Significant Procedures	81	ECHOCARDIOGRAPHY	Cardiovascular
1	Significant Procedures	82	CARDIAC ELECTROPHYSIOLOGIC TESTS AND MONITORING	Cardiovascular
1	Significant Procedures	83	PLACEMENT OF TRANSVENOUS CATHETERS	Cardiovascular
1	Significant Procedures	84	DIAGNOSTIC CARDIAC CATHETERIZATION	Cardiovascular
1	Significant Procedures	85	PERIPHERAL TRANSCATHETER AND REVASCULARIZATION PROCEDURES	Cardiovascular
1	Significant Procedures	86	PACEMAKER INSERTION AND REPLACEMENT	Cardiovascular
1	Significant Procedures	87	REMOVAL AND REVISION OF PACEMAKER AND VASCULAR DEVICE	Cardiovascular

1	Significant Procedures	88	LEVEL I CARDIOTHORACIC PROCEDURES	Cardiovascular
1	Significant Procedures	89	LEVEL II CARDIOTHORACIC PROCEDURES	Cardiovascular
1	Significant Procedures	90	SECONDARY VARICOSE VEINS AND VASCULAR INJECTION	Major Surgery
1	Significant Procedures	91	VASCULAR LIGATION AND RECONSTRUCTION	Major Surgery
1	Significant Procedures	92	RESUSCITATION	Minor Surgery
1	Significant Procedures	93	CARDIOVERSION	Cardiovascular
5	Rehab and Therapy	94	CARDIAC REHABILITATION	Rehab and Therapy
1	Significant Procedures	96	ATRIAL AND VENTRICULAR RECORDING AND PACING	Cardiovascular
1	Significant Procedures	97	AICD IMPLANT	Cardiovascular
1	Significant Procedures	99	CORONARY ANGIOPLASTY	Cardiovascular
2	Oncology Related Service	110	PHARMACOTHERAPY BY EXTENDED INFUSION	Oncology Related Services
1	Significant Procedures	110	PHARMACOTHERAPY BY EXTENDED INFUSION	Other
2	Oncology Related Service	111	PHARMACOTHERAPY EXCEPT BY EXTENDED INFUSION	Oncology Related Services
1	Significant Procedures	111	PHARMACOTHERAPY EXCEPT BY EXTENDED INFUSION	Other
1	Significant Procedures	112	PHLEBOTOMY	Other
1	Significant Procedures	113	LEVEL I BLOOD AND BLOOD PRODUCT EXCHANGE	Other
1	Significant Procedures	114	LEVEL II BLOOD AND BLOOD PRODUCT EXCHANGE	Other
1	Significant Procedures	115	DEEP LYMPH STRUCTURE AND THYROID PROCEDURES	Major Surgery
1	Significant Procedures	161	URINARY STUDIES AND PROCEDURES	Other
2	Oncology Related Service	457	VENIPUNCTURE	Clinic
1	Significant Procedures	130	ALIMENTARY TESTS AND SIMPLE TUBE PLACEMENT	Minor Surgery
1	Significant Procedures	131	ESOPHAGEAL DILATION WITHOUT ENDOSCOPY	Minor Surgery

1	Significant Procedures	132	ANOSCOPY WITH BIOPSY AND DIAGNOSTIC PROCTOSIGMOIDOSCOPY	Minor Surgery
1	Significant Procedures	133	PROCTOSIGMOIDOSCOPY WITH EXCISION OR BIOPSY	Minor Surgery
1	Significant Procedures	134	DIAGNOSTIC UPPER GI ENDOSCOPY OR INTUBATION	Minor Surgery
1	Significant Procedures	135	THERAPEUTIC UPPER GI ENDOSCOPY OR INTUBATION	Minor Surgery
1	Significant Procedures	136	DIAGNOSTIC LOWER GASTROINTESTINAL ENDOSCOPY	Minor Surgery
1	Significant Procedures	137	THERAPEUTIC COLONOSCOPY	Minor Surgery
1	Significant Procedures	138	ERCP AND MISCELLANEOUS GI ENDOSCOPY PROCEDURES	Major Surgery
1	Significant Procedures	139	LEVEL I HERNIA REPAIR	Major Surgery
1	Significant Procedures	140	LEVEL II HERNIA REPAIR	Major Surgery
1	Significant Procedures	141	LEVEL I ANAL AND RECTAL PROCEDURES	Minor Surgery
1	Significant Procedures	142	LEVEL II ANAL AND RECTAL PROCEDURES	Major Surgery
1	Significant Procedures	143	LEVEL I GASTROINTESTINAL PROCEDURES	Minor Surgery
1	Significant Procedures	144	LEVEL II GASTROINTESTINAL PROCEDURES	Major Surgery
1	Significant Procedures	145	LEVEL I LAPAROSCOPY	Major Surgery
1	Significant Procedures	146	LEVEL II LAPAROSCOPY	Major Surgery
1	Significant Procedures	147	LEVEL III LAPAROSCOPY	Major Surgery
1	Significant Procedures	148	LEVEL IV LAPAROSCOPY	Major Surgery
1	Significant Procedures	149	SCREENING COLORECTAL SERVICES	Minor Surgery
1	Significant Procedures	160	EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY	Major Surgery
1	Significant Procedures	168	HEMODIALYSIS	Other
1	Significant Procedures	162	URINARY DILATATION	Minor Surgery
1	Significant Procedures	163	LEVEL I BLADDER AND KIDNEY PROCEDURES	Minor Surgery
1	Significant Procedures	164	LEVEL II BLADDER AND KIDNEY PROCEDURES	Major Surgery

1	Significant Procedures	165	LEVEL III BLADDER AND KIDNEY PROCEDURES	Major Surgery
1	Significant Procedures	166	LEVEL I URETHRA AND PROSTATE PROCEDURES	Minor Surgery
1	Significant Procedures	167	LEVEL II URETHRA AND PROSTATE PROCEDURES	Major Surgery
1	Significant Procedures	169	PERITONEAL DIALYSIS	Other
1	Significant Procedures	190	ARTIFICIAL FERTILIZATION	Other
1	Significant Procedures	180	TESTICULAR AND EPIDIDYMAL PROCEDURES	Major Surgery
1	Significant Procedures	181	CIRCUMCISION	Minor Surgery
1	Significant Procedures	182	INSERTION OF PENILE PROSTHESIS	Major Surgery
1	Significant Procedures	183	OTHER PENILE PROCEDURES	Major Surgery
1	Significant Procedures	184	DESTRUCTION OR RESECTION OF PROSTATE	Major Surgery
1	Significant Procedures	185	PROSTATE NEEDLE AND PUNCH BIOPSY	Minor Surgery
1	Significant Procedures	210	EXTENDED EEG STUDIES	Other
1	Significant Procedures	191	LEVEL I FETAL PROCEDURES	Minor Surgery
1	Significant Procedures	192	LEVEL II FETAL PROCEDURES	Major Surgery
1	Significant Procedures	193	TREATMENT OF INCOMPLETE ABORTION	Minor Surgery
1	Significant Procedures	194	THERAPEUTIC ABORTION	Minor Surgery
1	Significant Procedures	195	VAGINAL DELIVERY	Major Surgery
1	Significant Procedures	196	LEVEL I FEMALE REPRODUCTIVE PROCEDURES	Minor Surgery
1	Significant Procedures	197	LEVEL II FEMALE REPRODUCTIVE PROCEDURES	Major Surgery
1	Significant Procedures	198	LEVEL III FEMALE REPRODUCTIVE PROCEDURES	Major Surgery
1	Significant Procedures	199	DILATION AND CURETTAGE	Minor Surgery
1	Significant Procedures	200	HYSTEROSCOPY	Major Surgery
1	Significant Procedures	201	COLPOSCOPY	Minor Surgery

1	Significant Procedures	211	ELECTROENCEPHALOGRAM	Other
1	Significant Procedures	212	ELECTROCONVULSIVE THERAPY	Other
1	Significant Procedures	213	NERVE AND MUSCLE TESTS	Other
1	Significant Procedures	219	SPINAL TAP	Other
1	Significant Procedures	214	LEVEL I NERVOUS SYSTEM INJECTIONS, STIMULATIONS OR CRANIAL TAP	Minor Surgery
1	Significant Procedures	215	LEVEL I REVISION OR REMOVAL OF NEUROLOGICAL DEVICE	Minor Surgery
1	Significant Procedures	216	LEVEL II REVISION OR REMOVAL OF NEUROLOGICAL DEVICE	Major Surgery
1	Significant Procedures	217	LEVEL I NERVE PROCEDURES	Minor Surgery
1	Significant Procedures	218	LEVEL II NERVE PROCEDURES	Major Surgery
1	Significant Procedures	222	SLEEP STUDIES	Other
1	Significant Procedures	220	LEVEL II NERVOUS SYSTEM INJECTIONS, STIMULATIONS OR CRANIAL TAP	Minor Surgery
1	Significant Procedures	221	LAMINOTOMY AND LAMINECTOMY	Major Surgery
1	Significant Procedures	251	OTORHINOLARYNGOLOGIC FUNCTION TESTS	Other
1	Significant Procedures	223	LEVEL III NERVE PROCEDURES	Major Surgery
1	Significant Procedures	224	LEVEL IV NERVE PROCEDURES	Major Surgery
1	Significant Procedures	230	MINOR OPHTHALMOLOGICAL TESTS AND PROCEDURES	Minor Surgery
1	Significant Procedures	232	LASER EYE PROCEDURES	Minor Surgery
1	Significant Procedures	233	CATARACT PROCEDURES	Minor Surgery
1	Significant Procedures	234	LEVEL I ANTERIOR SEGMENT EYE PROCEDURES	Minor Surgery
1	Significant Procedures	235	LEVEL II ANTERIOR SEGMENT EYE PROCEDURES	Major Surgery
1	Significant Procedures	236	LEVEL III ANTERIOR SEGMENT EYE PROCEDURES	Major Surgery
1	Significant Procedures	237	LEVEL I POSTERIOR SEGMENT EYE PROCEDURES	Major Surgery
1	Significant Procedures	238	LEVEL II POSTERIOR SEGMENT EYE PROCEDURES	Major Surgery

1	Significant Procedures	239	STRABISMUS AND MUSCLE EYE PROCEDURES	Major Surgery
1	Significant Procedures	240	LEVEL I REPAIR AND PLASTIC PROCEDURES OF EYE	Minor Surgery
1	Significant Procedures	241	LEVEL II REPAIR AND PLASTIC PROCEDURES OF EYE	Major Surgery
1	Significant Procedures	250	COCHLEAR DEVICE IMPLANTATION	Major Surgery
1	Significant Procedures	257	AUDIOMETRY	Other
1	Significant Procedures	252	LEVEL I FACIAL AND ENT PROCEDURES	Major Surgery
1	Significant Procedures	253	LEVEL II FACIAL AND ENT PROCEDURES	Major Surgery
1	Significant Procedures	254	LEVEL III FACIAL AND ENT PROCEDURES	Major Surgery
1	Significant Procedures	255	LEVEL IV FACIAL AND ENT PROCEDURES	Major Surgery
1	Significant Procedures	256	TONSIL AND ADENOID PROCEDURES	Minor Surgery
1	Significant Procedures	350	LEVEL I ADJUNCTIVE GENERAL DENTAL SERVICES	Other
5	Rehab and Therapy	270	OCCUPATIONAL THERAPY	Rehab and Therapy
5	Rehab and Therapy	271	PHYSICAL THERAPY	Rehab and Therapy
5	Rehab and Therapy	272	SPEECH THERAPY AND EVALUATION	Rehab and Therapy
5	Rehab and Therapy	274	OCCUPATIONAL/PHYSICAL THERAPY, GROUP	Rehab and Therapy
5	Rehab and Therapy	275	SPEECH THERAPY & EVALUATION, GROUP	Rehab and Therapy
1	Significant Procedures	280	VASCULAR RADIOLOGY EXCEPT VENOGRAPHY OF EXTREMITY	Radiology
1	Significant Procedures	281	MAGNETIC RESONANCE ANGIOGRAPHY - HEAD AND/OR NECK	Radiology
1	Significant Procedures	282	MAGNETIC RESONANCE ANGIOGRAPHY - CHEST	Radiology
1	Significant Procedures	283	MAGNETIC RESONANCE ANGIOGRAPHY - OTHER SITES	Radiology
1	Significant Procedures	284	MYELOGRAPHY	Radiology
1	Significant Procedures	285	MISCELLANEOUS RADIOLOGICAL PROCEDURES WITH CONTRAST	Radiology
1	Significant Procedures	286	MAMMOGRAPHY & OTHER RELATED PROCEDURES	Radiology

1	Significant Procedures	287	DIGESTIVE RADIOLOGY	Radiology
1	Significant Procedures	288	DIAGNOSTIC ULTRASOUND EXCEPT OBSTETRICAL AND VASCULAR OF LOWER EXTREMITIES	Radiology
1	Significant Procedures	289	VASCULAR DIAGNOSTIC ULTRASOUND OF LOWER EXTREMITIES	Radiology
1	Significant Procedures	290	PET SCANS	CT/MRI/PET
1	Significant Procedures	291	BONE DENSITOMETRY	Radiology
1	Significant Procedures	292	MRI- ABDOMEN	CT/MRI/PET
1	Significant Procedures	293	MRI- JOINTS	CT/MRI/PET
1	Significant Procedures	294	MRI- BACK	CT/MRI/PET
1	Significant Procedures	295	MRI- CHEST	CT/MRI/PET
1	Significant Procedures	296	MRI- OTHER	CT/MRI/PET
1	Significant Procedures	297	MRI BRAIN AND MAGNETOENCEPHALOGRAPHY	CT/MRI/PET
1	Significant Procedures	298	CAT SCAN BACK	CT/MRI/PET
1	Significant Procedures	299	CAT SCAN - BRAIN	CT/MRI/PET
1	Significant Procedures	300	CAT SCAN - ABDOMEN	CT/MRI/PET
1	Significant Procedures	301	CAT SCAN - OTHER	CT/MRI/PET
1	Significant Procedures	302	ANGIOGRAPHY, OTHER	Radiology
1	Significant Procedures	303	ANGIOGRAPHY, CEREBRAL	Radiology
6	Psychiatric	310	DEVELOPMENTAL & NEUROPSYCHOLOGICAL TESTING	Psychiatric
6	Psychiatric	311	FULL DAY PARTIAL HOSPITALIZATION FOR SUBSTANCE ABUSE	Psychiatric
6	Psychiatric	312	FULL DAY PARTIAL HOSPITALIZATION FOR MENTAL ILLNESS	Psychiatric
6	Psychiatric	313	HALF DAY PARTIAL HOSPITALIZATION FOR SUBSTANCE ABUSE	Psychiatric
6	Psychiatric	314	HALF DAY PARTIAL HOSPITALIZATION FOR MENTAL ILLNESS	Psychiatric
6	Psychiatric	315	COUNSELLING OR INDIVIDUAL BRIEF PSYCHOTHERAPY	Psychiatric

6	Psychiatric	316	INDIVIDUAL COMPREHENSIVE PSYCHOTHERAPY	Psychiatric
6	Psychiatric	317	FAMILY PSYCHOTHERAPY	Psychiatric
6	Psychiatric	318	GROUP PSYCHOTHERAPY	Psychiatric
6	Psychiatric	319	ACTIVITY THERAPY	Psychiatric
6	Psychiatric	320	CASE MANAGEMENT & TREATMENT PLAN DEVELOPMENT - MENTAL HEALTH OR SUBSTANCE ABUSE	Psychiatric
6	Psychiatric	322	MEDICATION ADMINISTRATION & OBSERVATION	Psychiatric
6	Psychiatric	323	MENTAL HYGIENE ASSESSMENT	Psychiatric
6	Psychiatric	327	INTENSIVE OUTPATIENT TREATMENT	Psychiatric
1	Significant Procedures	330	LEVEL I DIAGNOSTIC NUCLEAR MEDICINE	Radiology
1	Significant Procedures	331	LEVEL II DIAGNOSTIC NUCLEAR MEDICINE	Radiology
1	Significant Procedures	332	LEVEL III DIAGNOSTIC NUCLEAR MEDICINE	Radiology
1	Significant Procedures	340	THERAPEUTIC NUCLEAR MEDICINE	Radiology
2	Oncology Related Service	341	RADIATION THERAPY AND HYPERTHERMIA	Oncology Related Services
1	Significant Procedures	342	AFTERLOADING BRACHYTHERAPY	Oncology Related Services
2	Oncology Related Service	342	AFTERLOADING BRACHYTHERAPY	Oncology Related Services
2	Oncology Related Service	343	RADIATION TREATMENT DELIVERY	Oncology Related Services
1	Significant Procedures	343	RADIATION TREATMENT DELIVERY	Radiology
1	Significant Procedures	344	INSTILLATION OF RADIOELEMENT SOLUTIONS	Oncology Related Services
2	Oncology Related Service	344	INSTILLATION OF RADIOELEMENT SOLUTIONS	Oncology Related Services
2	Oncology Related Service	345	HYPERTHERMIC THERAPIES	Oncology Related Services
1	Significant Procedures	346	RADIOSURGERY	Minor Surgery

2	Oncology Related Service	346	RADIOSURGERY	Oncology Related Services
2	Oncology Related Service	349	LEVEL II AFTERLOADING BRACHYTHERAPY	Oncology Related Services
1	Significant Procedures	351	LEVEL II ADJUNCTIVE GENERAL DENTAL SERVICES	Other
1	Significant Procedures	352	LEVEL I PERIODONTICS	Other
1	Significant Procedures	355	LEVEL III PROSTHODONTICS, FIXED	Other
1	Significant Procedures	356	LEVEL I PROSTHODONTICS, REMOVABLE	Other
1	Significant Procedures	357	LEVEL II PROSTHODONTICS, REMOVABLE	Other
1	Significant Procedures	358	LEVEL III PROSTHODONTICS, REMOVABLE	Other
1	Significant Procedures	361	LEVEL I DENTAL RESTORATIONS	Other
1	Significant Procedures	362	LEVEL II DENTAL RESTORATIONS	Other
1	Significant Procedures	363	LEVEL III DENTAL RESTORATION	Other
1	Significant Procedures	364	LEVEL I ENDODONTICS	Other
1	Significant Procedures	371	LEVEL I ORTHODONTICS	Other
1	Significant Procedures	367	LEVEL I ORAL AND MAXILLOFACIAL SURGERY	Minor Surgery
1	Significant Procedures	368	LEVEL II ORAL AND MAXILLOFACIAL SURGERY	Minor Surgery
1	Significant Procedures	372	SEALANT	Other
4	ED Medical Visit	520	SPINAL DIAGNOSES & INJURIES	Other
4	ED Medical Visit	523	MULTIPLE SCLEROSIS & OTHER DEMYELINATING DISEASES	Other
4	ED Medical Visit	524	LEVEL I CNS DIAGNOSES	Other
4	ED Medical Visit	526	TRANSIENT ISCHEMIA	Other
4	ED Medical Visit	528	NONTRAUMATIC STUPOR & COMA	Other
7	Ancillary & Other	385	LEVEL I MOLECULAR PATHOLOGY AND GENETIC TESTS	Lab
7	Ancillary & Other	386	LEVEL II MOLECULAR PATHOLOGY AND GENETIC TESTS	Lab
7	Ancillary & Other	387	LEVEL III MOLECULAR PATHOLOGY AND GENETIC TESTS	Lab

7	Ancillary & Other	390	LEVEL I PATHOLOGY	Lab
7	Ancillary & Other	391	LEVEL II PATHOLOGY	Lab
7	Ancillary & Other	392	PAP SMEARS	Lab
7	Ancillary & Other	393	BLOOD AND TISSUE TYPING	Lab
7	Ancillary & Other	394	LEVEL I IMMUNOLOGY TESTS	Lab
7	Ancillary & Other	395	LEVEL II IMMUNOLOGY TESTS	Lab
7	Ancillary & Other	396	LEVEL I MICROBIOLOGY TESTS	Lab
7	Ancillary & Other	397	LEVEL II MICROBIOLOGY TESTS	Lab
7	Ancillary & Other	398	LEVEL I ENDOCRINOLOGY TESTS	Lab
7	Ancillary & Other	399	LEVEL II ENDOCRINOLOGY TESTS	Lab
7	Ancillary & Other	400	LEVEL I CHEMISTRY TESTS	Lab
7	Ancillary & Other	401	LEVEL II CHEMISTRY TESTS	Lab
7	Ancillary & Other	402	BASIC CHEMISTRY TESTS	Lab
7	Ancillary & Other	403	ORGAN OR DISEASE ORIENTED PANELS	Lab
7	Ancillary & Other	404	TOXICOLOGY TESTS	Lab
7	Ancillary & Other	405	THERAPEUTIC DRUG MONITORING	Lab
7	Ancillary & Other	406	LEVEL I CLOTTING TESTS	Lab
7	Ancillary & Other	407	LEVEL II CLOTTING TESTS	Lab
7	Ancillary & Other	408	LEVEL I HEMATOLOGY TESTS	Lab
7	Ancillary & Other	409	LEVEL II HEMATOLOGY TESTS	Lab
7	Ancillary & Other	410	URINALYSIS	Lab
7	Ancillary & Other	411	BLOOD AND URINE DIPSTICK TESTS	Lab
4	ED Medical Visit	529	SEIZURE	Other
4	ED Medical Visit	531	MIGRAINE	Other

4	ED Medical Visit	532	HEAD TRAUMA	Other
4	ED Medical Visit	533	AFTEREFFECTS OF CEREBROVASCULAR ACCIDENT	Other
4	ED Medical Visit	534	NONSPECIFIC CVA & PRECEREBRAL OCCLUSION W/O INFARC	Other
7	Ancillary & Other	417	MINOR REPRODUCTIVE PROCEDURES	Minor Surgery
4	ED Medical Visit	535	CVA & PRECEREBRAL OCCLUSION W INFARCT	Other
4	ED Medical Visit	536	CEREBRAL PALSY	Other
4	ED Medical Visit	550	ACUTE MAJOR EYE INFECTIONS	Other
4	ED Medical Visit	551	CATARACTS	Other
4	ED Medical Visit	552	GLAUCOMA	Other
7	Ancillary & Other	424	DRESSINGS AND OTHER MINOR PROCEDURES	Minor Surgery
4	ED Medical Visit	553	LEVEL I OTHER OPHTHALMIC DIAGNOSES	Other
6	Psychiatric	426	PSYCHOTROPIC MEDICATION MANAGEMENT	Psychiatric
4	ED Medical Visit	554	LEVEL II OTHER OPHTHALMIC DIAGNOSES	Other
4	ED Medical Visit	555	CONJUNCTIVITIS	Other
4	ED Medical Visit	561	VERTIGINOUS DIAGNOSES EXCEPT FOR BENIGN VERTIGO	Other
4	ED Medical Visit	570	CYSTIC FIBROSIS - PULMONARY DISEASE	Other
4	ED Medical Visit	572	BRONCHIOLITIS & RSV PNEUMONIA	Other
8	Oncology Drugs	431	CLASS II CHEMOTHERAPY DRUGS	Onc & Inf Drugs
8	Oncology Drugs	432	CLASS III CHEMOTHERAPY DRUGS	Onc & Inf Drugs
4	ED Medical Visit	573	COMMUNITY ACQUIRED PNUEMONIA	Other
8	Oncology Drugs	433	CLASS IV CHEMOTHERAPY DRUGS	Onc & Inf Drugs
8	Oncology Drugs	434	CLASS V CHEMOTHERAPY DRUGS	Onc & Inf Drugs
4	ED Medical Visit	574	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	Other
4	ED Medical Visit	577	LEVEL II OTHER RESPIRATORY DIAGNOSES	Other
8	Oncology Drugs	436	CLASS II PHARMACOTHERAPY	Onc & Inf Drugs
8	Oncology Drugs	437	CLASS III PHARMACOTHERAPY	Onc & Inf Drugs
4	ED Medical Visit	578	PNEUMONIA EXCEPT FOR COMMUNITY ACQUIRED PNEUMONIA	Other
8	Oncology Drugs	438	CLASS IV PHARMACOTHERAPY	Onc & Inf Drugs
4	ED Medical Visit	579	STATUS ASTHMATICUS	Other

8	Oncology Drugs	439	CLASS V PHARMACOTHERAPY	Onc & Inf Drugs
8	Oncology Drugs	440	CLASS VI PHARMACOTHERAPY	Onc & Inf Drugs
8	Oncology Drugs	441	CLASS VI CHEMOTHERAPY DRUGS	Onc & Inf Drugs
8	Oncology Drugs	443	CLASS VII CHEMOTHERAPY	Onc & Inf Drugs
4	ED Medical Visit	591	ACUTE MYOCARDIAL INFARCTION	Other
8	Oncology Drugs	444	CLASS VII PHARMACOTHERAPY	Onc & Inf Drugs
4	ED Medical Visit	593	LEVEL II CARDIOVASCULAR DIAGNOSES	Other
4	ED Medical Visit	594	HEART FAILURE	Other
4	ED Medical Visit	595	CARDIAC ARREST OR OTHER CAUSES OF MORTALITY	Other
3	Non-ED medical Visit	510	MAJOR SIGNS, SYMPTOMS AND FINDINGS	Clinic
3	Non-ED medical Visit	520	SPINAL DIAGNOSES & INJURIES	Clinic
4	ED Medical Visit	599	HYPERTENSION	Other
4	ED Medical Visit	601	LEVEL I CARDIAC ARRHYTHMIA & CONDUCTION DIAGNOSES	Other
8	Oncology Drugs	460	CLASS VIII - COMBINED CHEMOTHERAPY AND PHARMACOTHERAPY	Onc & Inf Drugs
8	Oncology Drugs	461	CLASS IX COMBINED CHEMOTHERAPY AND PHARMACOTHERAPY	Onc & Inf Drugs
4	ED Medical Visit	603	LEVEL II CARDIAC ARRHYTHMIA & CONDUCTION DIAGNOSES	Other
4	ED Medical Visit	605	SYNCOPE & COLLAPSE	Other
8	Oncology Drugs	462	CLASS X COMBINED CHEMOTHERAPY AND PHARMACOTHERAPY	Onc & Inf Drugs
8	Oncology Drugs	463	CLASS XI COMBINED CHEMOTHERAPY AND PHARMACOTHERAPY	Onc & Inf Drugs
8	Oncology Drugs	464	CLASS XII COMBINED CHEMOTHERAPY AND PHARMACOTHERAPY	Onc & Inf Drugs
8	Oncology Drugs	465	CLASS XIII COMBINED CHEMOTHERAPY AND PHARMOCOTHERAPY	Onc & Inf Drugs
7	Ancillary & Other	470	OBSTETRICAL ULTRASOUND	Radiology
7	Ancillary & Other	471	PLAIN FILM	Radiology
7	Ancillary & Other	472	ULTRASOUND GUIDANCE	Radiology
7	Ancillary & Other	473	CT GUIDANCE	CT/MRI/PET

7	Ancillary & Other	474	RADIOLOGICAL GUIDANCE FOR THERAPEUTIC OR DIAGNOSTIC PROCEDURES	Radiology
7	Ancillary & Other	475	MRI GUIDANCE	CT/MRI/PET
2	Oncology Related Service	476	LEVEL I THERAPEUTIC RADIATION TREATMENT PREPARATION	Oncology Related Services
2	Oncology Related Service	477	LEVEL II THERAPEUTIC RADIATION TREATMENT PREPARATION	Oncology Related Services
7	Ancillary & Other	477	LEVEL II THERAPEUTIC RADIATION TREATMENT PREPARATION	Oncology Related Services
2	Oncology Related Service	478	MEDICAL RADIATION PHYSICS	Oncology Related Services
2	Oncology Related Service	479	TREATMENT DEVICE DESIGN AND CONSTRUCTION	Oncology Related Services
7	Ancillary & Other	479	TREATMENT DEVICE DESIGN AND CONSTRUCTION	Oncology Related Services
2	Oncology Related Service	480	TELETHERAPY/BRACHYTHERAPY CALCULATION	Oncology Related Services
1	Significant Procedures	481	THERAPEUTIC RADIOLOGY SIMULATION FIELD SETTING	Oncology Related Services
2	Oncology Related Service	481	THERAPEUTIC RADIOLOGY SIMULATION FIELD SETTING	Oncology Related Services
2	Oncology Related Service	482	RADIOELEMENT APPLICATION	Oncology Related Services
2	Oncology Related Service	484	THERAPEUTIC RADIOLOGY TREATMENT PLANNING	Oncology Related Services
7	Ancillary & Other	486	BASIC BLOOD TYPING	Lab
4	ED Medical Visit	623	ESOPHAGITIS	Other
4	ED Medical Visit	626	INFLAMMATORY BOWEL DISEASE	Other
4	ED Medical Visit	627	NON-BACTERIAL GASTROENTERITIS, NAUSEA & VOMITING	Other
4	ED Medical Visit	629	MALFUNCTION, REACTION & COMPLICATION OF GI DEVICE OR PROCEDURE	Other

4	ED Medical Visit	630	CONSTIPATION	Other
4	ED Medical Visit	632	IRRITABLE BOWEL SYNDROME	Other
4	ED Medical Visit	633	ALCOHOLIC LIVER DISEASE	Other
4	ED Medical Visit	635	PANCREAS DIAGNOSES EXCEPT MALIGNANCY	Other
3	Non-ED medical Visit	521	NERVOUS SYSTEM MALIGNANCY	Clinic
3	Non-ED medical Visit	522	DEGENERATIVE NERVOUS SYSTEM DIAGNOSES EXC MULT SCLEROSIS	Clinic
3	Non-ED medical Visit	523	MULTIPLE SCLEROSIS & OTHER DEMYELINATING DISEASES	Clinic
4	ED Medical Visit	636	HEPATITIS WITHOUT COMA	Other
3	Non-ED medical Visit	524	LEVEL I CNS DIAGNOSES	Clinic
3	Non-ED medical Visit	525	LEVEL II CNS DIAGNOSES	Clinic
3	Non-ED medical Visit	526	TRANSIENT ISCHEMIA	Clinic
3	Non-ED medical Visit	527	PERIPHERAL NERVE DIAGNOSES	Clinic
3	Non-ED medical Visit	528	NONTRAUMATIC STUPOR & COMA	Clinic
3	Non-ED medical Visit	529	SEIZURE	Clinic
3	Non-ED medical Visit	530	HEADACHES OTHER THAN MIGRAINE	Clinic
3	Non-ED medical Visit	531	MIGRAINE	Clinic
3	Non-ED medical Visit	532	HEAD TRAUMA	Clinic
3	Non-ED medical Visit	533	AFTEREFFECTS OF CEREBROVASCULAR ACCIDENT	Clinic
3	Non-ED medical Visit	534	NONSPECIFIC CVA & PRECEREBRAL OCCLUSION W/O INFARC	Clinic
3	Non-ED medical Visit	535	CVA & PRECEREBRAL OCCLUSION W INFARCT	Clinic
3	Non-ED medical Visit	536	CEREBRAL PALSY	Clinic
3	Non-ED medical Visit	550	ACUTE MAJOR EYE INFECTIONS	Clinic
3	Non-ED medical Visit	551	CATARACTS	Clinic
3	Non-ED medical Visit	552	GLAUCOMA	Clinic
3	Non-ED medical Visit	553	LEVEL I OTHER OPHTHALMIC DIAGNOSES	Clinic

3	Non-ED medical Visit	554	LEVEL II OTHER OPHTHALMIC DIAGNOSES	Clinic
3	Non-ED medical Visit	555	CONJUNCTIVITIS	Clinic
3	Non-ED medical Visit	560	EAR, NOSE, MOUTH, THROAT, CRANIAL/FACIAL MALIGNANCIES	Clinic
3	Non-ED medical Visit	561	VERTIGINOUS DIAGNOSES EXCEPT FOR BENIGN VERTIGO	Clinic
3	Non-ED medical Visit	562	INFECTIONS OF UPPER RESPIRATORY TRACT & OTITIS MEDIA	Clinic
3	Non-ED medical Visit	563	DENTAL & ORAL DIAGNOSES & INJURIES	Clinic
3	Non-ED medical Visit	564	LEVEL I OTHER EAR, NOSE, MOUTH,THROAT & CRANIAL/FACIAL DIAGNOSES	Clinic
3	Non-ED medical Visit	565	LEVEL II OTHER EAR, NOSE, MOUTH,THROAT & CRANIAL/FACIAL DIAGNOSES	Clinic
3	Non-ED medical Visit	570	CYSTIC FIBROSIS - PULMONARY DISEASE	Clinic
3	Non-ED medical Visit	571	RESPIRATORY MALIGNANCY	Clinic
3	Non-ED medical Visit	572	BRONCHIOLITIS & RSV PNEUMONIA	Clinic
3	Non-ED medical Visit	573	COMMUNITY ACQUIRED PNUEMONIA	Clinic
3	Non-ED medical Visit	574	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	Clinic
3	Non-ED medical Visit	575	ASTHMA	Clinic
3	Non-ED medical Visit	576	LEVEL I OTHER RESPIRATORY DIAGNOSES	Clinic
3	Non-ED medical Visit	577	LEVEL II OTHER RESPIRATORY DIAGNOSES	Clinic
3	Non-ED medical Visit	578	PNEUMONIA EXCEPT FOR COMMUNITY ACQUIRED PNEUMONIA	Clinic
3	Non-ED medical Visit	579	STATUS ASTHMATICUS	Clinic
3	Non-ED medical Visit	591	ACUTE MYOCARDIAL INFARCTION	Clinic
3	Non-ED medical Visit	592	LEVEL I CARDIOVASCULAR DIAGNOSES	Clinic
3	Non-ED medical Visit	593	LEVEL II CARDIOVASCULAR DIAGNOSES	Clinic
3	Non-ED medical Visit	594	HEART FAILURE	Clinic
3	Non-ED medical Visit	595	CARDIAC ARREST OR OTHER CAUSES OF MORTALITY	Clinic

3	Non-ED medical Visit	596	PERIPHERAL & OTHER VASCULAR DIAGNOSES	Clinic
3	Non-ED medical Visit	597	PHLEBITIS	Clinic
3	Non-ED medical Visit	598	ANGINA PECTORIS & CORONARY ATHEROSCLEROSIS	Clinic
3	Non-ED medical Visit	599	HYPERTENSION	Clinic
3	Non-ED medical Visit	600	CARDIAC STRUCTURAL & VALVULAR DIAGNOSES	Clinic
3	Non-ED medical Visit	601	LEVEL I CARDIAC ARRHYTHMIA & CONDUCTION DIAGNOSES	Clinic
3	Non-ED medical Visit	602	ATRIAL FIBRILLATION	Clinic
3	Non-ED medical Visit	603	LEVEL II CARDIAC ARRHYTHMIA & CONDUCTION DIAGNOSES	Clinic
3	Non-ED medical Visit	604	CHEST PAIN	Clinic
3	Non-ED medical Visit	605	SYNCOPE & COLLAPSE	Clinic
3	Non-ED medical Visit	620	DIGESTIVE MALIGNANCY	Clinic
3	Non-ED medical Visit	621	PEPTIC ULCER & GASTRITIS	Clinic
3	Non-ED medical Visit	623	ESOPHAGITIS	Clinic
3	Non-ED medical Visit	624	LEVEL I GASTROINTESTINAL DIAGNOSES	Clinic
3	Non-ED medical Visit	625	LEVEL II GASTROINTESTINAL DIAGNOSES	Clinic
3	Non-ED medical Visit	626	INFLAMMATORY BOWEL DISEASE	Clinic
3	Non-ED medical Visit	627	NON-BACTERIAL GASTROENTERITIS, NAUSEA & VOMITING	Clinic
3	Non-ED medical Visit	628	ABDOMINAL PAIN	Clinic
3	Non-ED medical Visit	629	MALFUNCTION, REACTION & COMPLICATION OF GI DEVICE OR PROCEDURE	Clinic
3	Non-ED medical Visit	630	CONSTIPATION	Clinic
3	Non-ED medical Visit	631	HERNIA	Clinic
3	Non-ED medical Visit	632	IRRITABLE BOWEL SYNDROME	Clinic
3	Non-ED medical Visit	633	ALCOHOLIC LIVER DISEASE	Clinic

3	Non-ED medical Visit	634	MALIGNANCY OF HEPATOBILIARY SYSTEM & PANCREAS	Clinic
3	Non-ED medical Visit	635	PANCREAS DIAGNOSES EXCEPT MALIGNANCY	Clinic
3	Non-ED medical Visit	636	HEPATITIS WITHOUT COMA	Clinic
3	Non-ED medical Visit	637	GALLBLADDER & BILIARY TRACT DIAGNOSES	Clinic
3	Non-ED medical Visit	638	CHOLECYSTITIS	Clinic
3	Non-ED medical Visit	639	LEVEL I HEPATOBILIARY DIAGNOSES	Clinic
3	Non-ED medical Visit	640	LEVEL II HEPATOBILIARY DIAGNOSES	Clinic
3	Non-ED medical Visit	650	FRACTURE OF FEMUR	Clinic
3	Non-ED medical Visit	651	FRACTURE OF PELVIS OR DISLOCATION OF HIP	Clinic
3	Non-ED medical Visit	652	FRACTURES & DISLOCATIONS EXCEPT FEMUR, PELVIS & BACK	Clinic
3	Non-ED medical Visit	653	MUSCULOSKELETAL MALIGNANCY & PATHOLOGICAL FRACTURES	Clinic
3	Non-ED medical Visit	654	OSTEOMYELITIS, SEPTIC ARTHRITIS & OTHER MUSCULOSKELETAL INFECTIONS	Clinic
3	Non-ED medical Visit	655	CONNECTIVE TISSUE DIAGNOSES	Clinic
3	Non-ED medical Visit	656	BACK & NECK DIAGNOSES EXCEPT LUMBAR DISC DIAGNOSES	Clinic
3	Non-ED medical Visit	657	LUMBAR DISC DIAGNOSES	Clinic
3	Non-ED medical Visit	658	LUMBAR DISC DIAGNOSES WITH SCIATICA	Clinic
3	Non-ED medical Visit	659	MALFUNCTION, REACTION, COMPLIC OF ORTHOPEDIC DEVICE OR PROCEDURE	Clinic
3	Non-ED medical Visit	660	LEVEL I OTHER MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE DIAGNOSES	Clinic
3	Non-ED medical Visit	661	LEVEL II OTHER MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE DIAGNOSES	Clinic
3	Non-ED medical Visit	662	OSTEOPOROSIS	Clinic
3	Non-ED medical Visit	663	PAIN	Clinic
3	Non-ED medical Visit	670	SKIN ULCERS	Clinic
3	Non-ED medical Visit	671	MAJOR SKIN DIAGNOSES	Clinic

3	Non-ED medical Visit	672	MALIGNANT BREAST DIAGNOSES	Clinic
3	Non-ED medical Visit	673	CELLULITIS & OTHER BACTERIAL SKIN INFECTIONS	Clinic
3	Non-ED medical Visit	674	CONTUSION, OPEN WOUND & OTHER TRAUMA TO SKIN & SUBCUTANEOUS TISSUE	Clinic
3	Non-ED medical Visit	675	OTHER SKIN, SUBCUTANEOUS TISSUE & BREAST DIAGNOSES	Clinic
3	Non-ED medical Visit	676	DECUBITUS ULCER	Clinic
3	Non-ED medical Visit	690	MALNUTRITION, FAILURE TO THRIVE & OTHER NUTRITIONAL DIAGNOSES	Clinic
3	Non-ED medical Visit	691	INBORN ERRORS OF METABOLISM	Clinic
3	Non-ED medical Visit	692	LEVEL I ENDOCRINE DIAGNOSES	Clinic
3	Non-ED medical Visit	693	LEVEL II ENDOCRINE DIAGNOSES	Clinic
3	Non-ED medical Visit	694	ELECTROLYTE DISORDERS	Clinic
3	Non-ED medical Visit	695	OBESITY	Clinic
3	Non-ED medical Visit	710	DIABETES WITH OPHTHALMIC MANIFESTATIONS	Clinic
3	Non-ED medical Visit	711	DIABETES WITH OTHER MANIFESTATIONS & COMPLICATIONS	Clinic
3	Non-ED medical Visit	712	DIABETES WITH NEUROLOGIC MANIFESTATIONS	Clinic
3	Non-ED medical Visit	713	DIABETES WITHOUT COMPLICATIONS	Clinic
3	Non-ED medical Visit	714	DIABETES WITH RENAL MANIFESTATIONS	Clinic
3	Non-ED medical Visit	720	RENAL FAILURE	Clinic
3	Non-ED medical Visit	721	KIDNEY & URINARY TRACT MALIGNANCY	Clinic
3	Non-ED medical Visit	722	NEPHRITIS & NEPHROSIS	Clinic
3	Non-ED medical Visit	723	KIDNEY AND CHRONIC URINARY TRACT INFECTIONS	Clinic
3	Non-ED medical Visit	724	URINARY STONES & ACQUIRED UPPER URINARY TRACT OBSTRUCTION	Clinic
3	Non-ED medical Visit	725	MALFUNCTION, REACTION, COMPLIC OF GENITOURINARY DEVICE OR PROC	Clinic
3	Non-ED medical Visit	726	OTHER KIDNEY & URINARY TRACT DIAGNOSES, SIGNS & SYMPTOMS	Clinic

3	Non-ED medical Visit	727	ACUTE LOWER URINARY TRACT INFECTIONS	Clinic
3	Non-ED medical Visit	740	MALIGNANCY, MALE REPRODUCTIVE SYSTEM	Clinic
3	Non-ED medical Visit	741	MALE REPRODUCTIVE SYSTEM DIAGNOSES EXCEPT MALIGNANCY	Clinic
3	Non-ED medical Visit	742	NEOPLASMS OF THE MALE REPRODUCTIVE SYSTEM	Clinic
3	Non-ED medical Visit	743	PROSTATITIS	Clinic
3	Non-ED medical Visit	744	MALE REPRODUCTIVE INFECTIONS	Clinic
3	Non-ED medical Visit	750	FEMALE REPRODUCTIVE SYSTEM MALIGNANCY	Clinic
3	Non-ED medical Visit	751	FEMALE REPRODUCTIVE SYSTEM INFECTIONS	Clinic
3	Non-ED medical Visit	752	LEVEL I MENSTRUAL AND OTHER FEMALE DIAGNOSES	Clinic
3	Non-ED medical Visit	753	LEVEL II MENSTRUAL AND OTHER FEMALE DIAGNOSES	Clinic
3	Non-ED medical Visit	760	VAGINAL DELIVERY	Clinic
3	Non-ED medical Visit	761	POSTPARTUM & POST ABORTION DIAGNOSES W/O PROCEDURE	Clinic
3	Non-ED medical Visit	762	THREATENED ABORTION	Clinic
3	Non-ED medical Visit	763	ABORTION W/O D&C, ASPIRATION CURETTAGE OR HYSTEROTOMY	Clinic
3	Non-ED medical Visit	764	FALSE LABOR	Clinic
3	Non-ED medical Visit	765	OTHER ANTEPARTUM DIAGNOSES	Clinic
3	Non-ED medical Visit	766	ROUTINE PRENATAL CARE	Clinic
3	Non-ED medical Visit	770	NORMAL NEONATE	Clinic
3	Non-ED medical Visit	771	LEVEL I NEONATAL DIAGNOSES	Clinic
3	Non-ED medical Visit	772	LEVEL II NEONATAL DIAGNOSES	Clinic
3	Non-ED medical Visit	780	OTHER HEMATOLOGICAL DIAGNOSES	Clinic
3	Non-ED medical Visit	781	COAGULATION & PLATELET DIAGNOSES	Clinic
3	Non-ED medical Visit	782	CONGENITAL FACTOR DEFICIENCIES	Clinic

3	Non-ED medical Visit	783	SICKLE CELL ANEMIA CRISIS	Clinic
3	Non-ED medical Visit	784	SICKLE CELL ANEMIA	Clinic
3	Non-ED medical Visit	785	ANEMIA EXCEPT FOR IRON DEFICIENCY ANEMIA AND SICKLE CELL ANEMIA	Clinic
3	Non-ED medical Visit	786	IRON DEFICIENCY ANEMIA	Clinic
3	Non-ED medical Visit	805	SEPTICEMIA & DISSEMINATED INFECTIONS	Clinic
3	Non-ED medical Visit	806	POST-OPERATIVE, POST-TRAUMATIC, OTHER DEVICE INFECTIONS	Clinic
3	Non-ED medical Visit	807	FEVER	Clinic
3	Non-ED medical Visit	808	VIRAL ILLNESS	Clinic
3	Non-ED medical Visit	809	OTHER INFECTIOUS & PARASITIC DISEASES	Clinic
3	Non-ED medical Visit	810	H. PYLORI INFECTION	Clinic
3	Non-ED medical Visit	840	OPIOID ABUSE & DEPENDENCE	Clinic
3	Non-ED medical Visit	841	COCAINE ABUSE & DEPENDENCE	Clinic
3	Non-ED medical Visit	842	ALCOHOL ABUSE & DEPENDENCE	Clinic
3	Non-ED medical Visit	843	OTHER DRUG ABUSE & DEPENDENCE	Clinic
3	Non-ED medical Visit	850	ALLERGIC REACTIONS	Clinic
3	Non-ED medical Visit	851	POISONING OF MEDICINAL AGENTS	Clinic
3	Non-ED medical Visit	852	OTHER COMPLICATIONS OF TREATMENT	Clinic
3	Non-ED medical Visit	853	OTHER INJURY, POISONING & TOXIC EFFECT DIAGNOSES	Clinic
3	Non-ED medical Visit	854	TOXIC EFFECTS OF NON-MEDICINAL SUBSTANCES	Clinic
3	Non-ED medical Visit	860	EXTENSIVE 3RD DEGREE OR FULL THICKNESS BURNS W/O SKIN GRAFT	Clinic
3	Non-ED medical Visit	861	PARTIAL THICKNESS BURNS W OR W/O SKIN GRAFT	Clinic
3	Non-ED medical Visit	870	REHABILITATION	Clinic
3	Non-ED medical Visit	871	SIGNS, SYMPTOMS & OTHER FACTORS INFLUENCING HEALTH STATUS	Clinic

3	Non-ED medical Visit	872	OTHER AFTERCARE & CONVALESCENCE	Clinic
3	Non-ED medical Visit	873	NEONATAL AFTERCARE	Clinic
3	Non-ED medical Visit	874	JOINT REPLACEMENT	Clinic
3	Non-ED medical Visit	875	CONTRACEPTIVE MANAGEMENT	Clinic
3	Non-ED medical Visit	878	GYNECOLOGICAL PREVENTIVE MEDICINE	Clinic
3	Non-ED medical Visit	879	PREVENTIVE OR SCREENING ENCOUNTERS	Clinic
3	Non-ED medical Visit	880	HIV INFECTION	Clinic
3	Non-ED medical Visit	881	AIDS	Clinic
3	Non-ED medical Visit	882	GENETIC COUNSELING	Clinic
3	Non-ED medical Visit	820	SCHIZOPHRENIA	Clinic
3	Non-ED medical Visit	821	MAJOR DEPRESSIVE DIAGNOSES & OTHER/UNSPECIFIED PSYCHOSES	Clinic
3	Non-ED medical Visit	822	PERSONALITY & IMPULSE CONTROL DIAGNOSES	Clinic
4	ED Medical Visit	637	GALLBLADDER & BILIARY TRACT DIAGNOSES	Other
4	ED Medical Visit	638	CHOLECYSTITIS	Other
3	Non-ED medical Visit	823	BIPOLAR DISORDERS	Clinic
4	ED Medical Visit	650	FRACTURE OF FEMUR	Other
3	Non-ED medical Visit	824	DEPRESSION EXCEPT MAJOR DEPRESSIVE DIAGNOSES	Clinic
4	ED Medical Visit	651	FRACTURE OF PELVIS OR DISLOCATION OF HIP	Other
4	ED Medical Visit	652	FRACTURES & DISLOCATIONS EXCEPT FEMUR, PELVIS & BACK	Other
3	Non-ED medical Visit	825	ADJUSTMENT DISORDERS & NEUROSES EXCEPT DEPRESSIVE DIAGNOSES	Clinic
4	ED Medical Visit	662	OSTEOPOROSIS	Other
4	ED Medical Visit	695	OBESITY	Other
4	ED Medical Visit	710	DIABETES WITH OPHTHALMIC MANIFESTATIONS	Other
4	ED Medical Visit	713	DIABETES WITHOUT COMPLICATIONS	Other
4	ED Medical Visit	722	NEPHRITIS & NEPHROSIS	Other
4	ED Medical Visit	724	URINARY STONES & ACQUIRED UPPER URINARY TRACT OBSTRUCTION	Other

4	ED Medical Visit	725	MALFUNCTION, REACTION, COMPLIC OF GENITOURINARY DEVICE OR PROC	Other
4	ED Medical Visit	727	ACUTE LOWER URINARY TRACT INFECTIONS	Other
4	ED Medical Visit	743	PROSTATITIS	Other
4	ED Medical Visit	744	MALE REPRODUCTIVE INFECTIONS	Other
4	ED Medical Visit	753	LEVEL II MENSTRUAL AND OTHER FEMALE DIAGNOSES	Other
4	ED Medical Visit	760	VAGINAL DELIVERY	Other
3	Non-ED medical Visit	826	ACUTE ANXIETY & DELIRIUM STATES	Clinic
4	ED Medical Visit	761	POSTPARTUM & POST ABORTION DIAGNOSES W/O PROCEDURE	Other
3	Non-ED medical Visit	827	ORGANIC MENTAL HEALTH DISTURBANCES	Clinic
3	Non-ED medical Visit	828	MENTAL RETARDATION	Clinic
3	Non-ED medical Visit	829	CHILDHOOD BEHAVIORAL DIAGNOSES	Clinic
3	Non-ED medical Visit	830	EATING DISORDERS	Clinic
4	ED Medical Visit	762	THREATENED ABORTION	Other
3	Non-ED medical Visit	831	OTHER MENTAL HEALTH DIAGNOSES	Clinic
4	ED Medical Visit	763	ABORTION W/O D&C, ASPIRATION CURETTAGE OR HYSTEROTOMY	Other
4	ED Medical Visit	764	FALSE LABOR	Other
4	ED Medical Visit	765	OTHER ANTEPARTUM DIAGNOSES	Other
4	ED Medical Visit	510	MAJOR SIGNS, SYMPTOMS AND FINDINGS	Other
4	ED Medical Visit	521	NERVOUS SYSTEM MALIGNANCY	Other
4	ED Medical Visit	766	ROUTINE PRENATAL CARE	Other
4	ED Medical Visit	771	LEVEL I NEONATAL DIAGNOSES	Other
4	ED Medical Visit	772	LEVEL II NEONATAL DIAGNOSES	Other
4	ED Medical Visit	780	OTHER HEMATOLOGICAL DIAGNOSES	Other
4	ED Medical Visit	522	DEGENERATIVE NERVOUS SYSTEM DIAGNOSES EXC MULT SCLEROSIS	Other
4	ED Medical Visit	781	COAGULATION & PLATELET DIAGNOSES	Other
4	ED Medical Visit	782	CONGENITAL FACTOR DEFICIENCIES	Other
4	ED Medical Visit	783	SICKLE CELL ANEMIA CRISIS	Other
4	ED Medical Visit	525	LEVEL II CNS DIAGNOSES	Other
4	ED Medical Visit	527	PERIPHERAL NERVE DIAGNOSES	Other
4	ED Medical Visit	530	HEADACHES OTHER THAN MIGRAINE	Other
4	ED Medical Visit	784	SICKLE CELL ANEMIA	Other
4	ED Medical Visit	560	EAR, NOSE, MOUTH, THROAT, CRANIAL/FACIAL MALIGNANCIES	Other

4	ED Medical Visit	785	ANEMIA EXCEPT FOR IRON DEFICIENCY ANEMIA AND SICKLE CELL ANEMIA	Other
4	ED Medical Visit	562	INFECTIONS OF UPPER RESPIRATORY TRACT & OTITIS MEDIA	Other
4	ED Medical Visit	786	IRON DEFICIENCY ANEMIA	Other
4	ED Medical Visit	563	DENTAL & ORAL DIAGNOSES & INJURIES	Other
4	ED Medical Visit	805	SEPTICEMIA & DISSEMINATED INFECTIONS	Other
4	ED Medical Visit	564	LEVEL I OTHER EAR, NOSE, MOUTH,THROAT & CRANIAL/FACIAL DIAGNOSES	Other
4	ED Medical Visit	565	LEVEL II OTHER EAR, NOSE, MOUTH,THROAT & CRANIAL/FACIAL DIAGNOSES	Other
4	ED Medical Visit	806	POST-OPERATIVE, POST-TRAUMATIC, OTHER DEVICE INFECTIONS	Other
4	ED Medical Visit	571	RESPIRATORY MALIGNANCY	Other
4	ED Medical Visit	575	ASTHMA	Other
4	ED Medical Visit	807	FEVER	Other
4	ED Medical Visit	808	VIRAL ILLNESS	Other
4	ED Medical Visit	576	LEVEL I OTHER RESPIRATORY DIAGNOSES	Other
4	ED Medical Visit	809	OTHER INFECTIOUS & PARASITIC DISEASES	Other
4	ED Medical Visit	810	H. PYLORI INFECTION	Other
4	ED Medical Visit	592	LEVEL I CARDIOVASCULAR DIAGNOSES	Other
4	ED Medical Visit	840	OPIOID ABUSE & DEPENDENCE	Other
4	ED Medical Visit	841	COCAINE ABUSE & DEPENDENCE	Other
4	ED Medical Visit	596	PERIPHERAL & OTHER VASCULAR DIAGNOSES	Other
4	ED Medical Visit	842	ALCOHOL ABUSE & DEPENDENCE	Other
4	ED Medical Visit	843	OTHER DRUG ABUSE & DEPENDENCE	Other
4	ED Medical Visit	850	ALLERGIC REACTIONS	Other
4	ED Medical Visit	851	POISONING OF MEDICINAL AGENTS	Other
4	ED Medical Visit	597	PHLEBITIS	Other
4	ED Medical Visit	598	ANGINA PECTORIS & CORONARY ATHEROSCLEROSIS	Other
4	ED Medical Visit	852	OTHER COMPLICATIONS OF TREATMENT	Other
4	ED Medical Visit	853	OTHER INJURY, POISONING & TOXIC EFFECT DIAGNOSES	Other
4	ED Medical Visit	854	TOXIC EFFECTS OF NON-MEDICINAL SUBSTANCES	Other
4	ED Medical Visit	600	CARDIAC STRUCTURAL & VALVULAR DIAGNOSES	Other
4	ED Medical Visit	602	ATRIAL FIBRILLATION	Other
4	ED Medical Visit	604	CHEST PAIN	Other
4	ED Medical Visit	620	DIGESTIVE MALIGNANCY	Other
4	ED Medical Visit	621	PEPTIC ULCER & GASTRITIS	Other

4	ED Medical Visit	624	LEVEL I GASTROINTESTINAL DIAGNOSES	Other
4	ED Medical Visit	625	LEVEL II GASTROINTESTINAL DIAGNOSES	Other
4	ED Medical Visit	628	ABDOMINAL PAIN	Other
4	ED Medical Visit	631	HERNIA	Other
4	ED Medical Visit	860	EXTENSIVE 3RD DEGREE OR FULL THICKNESS BURNS W/O SKIN GRAFT	Other
4	ED Medical Visit	634	MALIGNANCY OF HEPATOBILIARY SYSTEM & PANCREAS	Other
4	ED Medical Visit	639	LEVEL I HEPATOBILIARY DIAGNOSES	Other
4	ED Medical Visit	640	LEVEL II HEPATOBILIARY DIAGNOSES	Other
4	ED Medical Visit	653	MUSCULOSKELETAL MALIGNANCY & PATHOLOGICAL FRACTURES	Other
4	ED Medical Visit	654	OSTEOMYELITIS, SEPTIC ARTHRITIS & OTHER MUSCULOSKELETAL INFECTIONS	Other
4	ED Medical Visit	655	CONNECTIVE TISSUE DIAGNOSES	Other
4	ED Medical Visit	656	BACK & NECK DIAGNOSES EXCEPT LUMBAR DISC DIAGNOSES	Other
4	ED Medical Visit	657	LUMBAR DISC DIAGNOSES	Other
4	ED Medical Visit	658	LUMBAR DISC DIAGNOSES WITH SCIATICA	Other
4	ED Medical Visit	659	MALFUNCTION, REACTION, COMPLIC OF ORTHOPEDIC DEVICE OR PROCEDURE	Other
4	ED Medical Visit	660	LEVEL I OTHER MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE DIAGNOSES	Other
4	ED Medical Visit	661	LEVEL II OTHER MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE DIAGNOSES	Other
4	ED Medical Visit	663	PAIN	Other
4	ED Medical Visit	861	PARTIAL THICKNESS BURNS W OR W/O SKIN GRAFT	Other
4	ED Medical Visit	871	SIGNS, SYMPTOMS & OTHER FACTORS INFLUENCING HEALTH STATUS	Other
4	ED Medical Visit	670	SKIN ULCERS	Other
4	ED Medical Visit	671	MAJOR SKIN DIAGNOSES	Other
4	ED Medical Visit	872	OTHER AFTERCARE & CONVALESCENCE	Other
4	ED Medical Visit	672	MALIGNANT BREAST DIAGNOSES	Other
4	ED Medical Visit	673	CELLULITIS & OTHER BACTERIAL SKIN INFECTIONS	Other
4	ED Medical Visit	674	CONTUSION, OPEN WOUND & OTHER TRAUMA TO SKIN & SUBCUTANEOUS TISSUE	Other
4	ED Medical Visit	873	NEONATAL AFTERCARE	Other
4	ED Medical Visit	675	OTHER SKIN, SUBCUTANEOUS TISSUE & BREAST DIAGNOSES	Other
4	ED Medical Visit	874	JOINT REPLACEMENT	Other
4	ED Medical Visit	875	CONTRACEPTIVE MANAGEMENT	Other

2	Oncology Related Service	800	ACUTE LEUKEMIA	Oncology Related Services
4	ED Medical Visit	800	ACUTE LEUKEMIA	Oncology Related Services
2	Oncology Related Service	801	LYMPHOMA, MYELOMA & NON-ACUTE LEUKEMIA	Oncology Related Services
3	Non-ED medical Visit	801	LYMPHOMA, MYELOMA & NON-ACUTE LEUKEMIA	Oncology Related Services
4	ED Medical Visit	801	LYMPHOMA, MYELOMA & NON-ACUTE LEUKEMIA	Oncology Related Services
2	Oncology Related Service	802	RADIOTHERAPY	Oncology Related Services
4	ED Medical Visit	802	RADIOTHERAPY	Oncology Related Services
2	Oncology Related Service	803	CHEMOTHERAPY	Oncology Related Services
3	Non-ED medical Visit	803	CHEMOTHERAPY	Oncology Related Services
4	ED Medical Visit	803	CHEMOTHERAPY	Oncology Related Services
2	Oncology Related Service	804	LYMPHATIC & OTHER MALIGNANCIES & NEOPLASMS OF UNCERTAIN BEHAVIOR	Oncology Related Services
4	ED Medical Visit	804	LYMPHATIC & OTHER MALIGNANCIES & NEOPLASMS OF UNCERTAIN BEHAVIOR	Oncology Related Services
4	ED Medical Visit	676	DECUBITUS ULCER	Other
4	ED Medical Visit	878	GYNECOLOGICAL PREVENTIVE MEDICINE	Other
4	ED Medical Visit	690	MALNUTRITION, FAILURE TO THRIVE & OTHER NUTRITIONAL DIAGNOSES	Other
4	ED Medical Visit	691	INBORN ERRORS OF METABOLISM	Other
4	ED Medical Visit	879	PREVENTIVE OR SCREENING ENCOUNTERS	Other
4	ED Medical Visit	880	HIV INFECTION	Other
4	ED Medical Visit	692	LEVEL I ENDOCRINE DIAGNOSES	Other
4	ED Medical Visit	693	LEVEL II ENDOCRINE DIAGNOSES	Other
4	ED Medical Visit	694	ELECTROLYTE DISORDERS	Other

4	ED Medical Visit	881	AIDS	Other
7	Ancillary & Other	116	ALLERGY TESTS	Other
7	Ancillary & Other	373	LEVEL I DENTAL FILM	Other
4	ED Medical Visit	711	DIABETES WITH OTHER MANIFESTATIONS & COMPLICATIONS	Other
4	ED Medical Visit	820	SCHIZOPHRENIA	Other
4	ED Medical Visit	712	DIABETES WITH NEUROLOGIC MANIFESTATIONS	Other
4	ED Medical Visit	821	MAJOR DEPRESSIVE DIAGNOSES & OTHER/UNSPECIFIED PSYCHOSES	Other
4	ED Medical Visit	714	DIABETES WITH RENAL MANIFESTATIONS	Other
4	ED Medical Visit	822	PERSONALITY & IMPULSE CONTROL DIAGNOSES	Other
4	ED Medical Visit	720	RENAL FAILURE	Other
4	ED Medical Visit	823	BIPOLAR DISORDERS	Other
4	ED Medical Visit	721	KIDNEY & URINARY TRACT MALIGNANCY	Other
4	ED Medical Visit	824	DEPRESSION EXCEPT MAJOR DEPRESSIVE DIAGNOSES	Other
4	ED Medical Visit	723	KIDNEY AND CHRONIC URINARY TRACT INFECTIONS	Other
4	ED Medical Visit	825	ADJUSTMENT DISORDERS & NEUROSES EXCEPT DEPRESSIVE DIAGNOSES	Other
4	ED Medical Visit	726	OTHER KIDNEY & URINARY TRACT DIAGNOSES, SIGNS & SYMPTOMS	Other
4	ED Medical Visit	826	ACUTE ANXIETY & DELIRIUM STATES	Other
4	ED Medical Visit	740	MALIGNANCY, MALE REPRODUCTIVE SYSTEM	Other
4	ED Medical Visit	827	ORGANIC MENTAL HEALTH DISTURBANCES	Other
4	ED Medical Visit	741	MALE REPRODUCTIVE SYSTEM DIAGNOSES EXCEPT MALIGNANCY	Other
4	ED Medical Visit	828	MENTAL RETARDATION	Other
4	ED Medical Visit	750	FEMALE REPRODUCTIVE SYSTEM MALIGNANCY	Other
4	ED Medical Visit	829	CHILDHOOD BEHAVIORAL DIAGNOSES	Other
4	ED Medical Visit	751	FEMALE REPRODUCTIVE SYSTEM INFECTIONS	Other
4	ED Medical Visit	830	EATING DISORDERS	Other
4	ED Medical Visit	752	LEVEL I MENSTRUAL AND OTHER FEMALE DIAGNOSES	Other
4	ED Medical Visit	831	OTHER MENTAL HEALTH DIAGNOSES	Other
7	Ancillary & Other	374	LEVEL II DENTAL FILM	Other

7	Ancillary & Other	376	DIAGNOSTIC DENTAL PROCEDURES	Other
7	Ancillary & Other	377	PREVENTIVE DENTAL PROCEDURES	Other
7	Ancillary & Other	412	SIMPLE PULMONARY FUNCTION TESTS	Other
7	Ancillary & Other	413	CARDIOGRAM	Other
7	Ancillary & Other	414	LEVEL I IMMUNIZATION	Other
7	Ancillary & Other	415	LEVEL II IMMUNIZATION	Other
7	Ancillary & Other	416	LEVEL III IMMUNIZATION	Other
7	Ancillary & Other	418	MINOR CARDIAC AND VASCULAR TESTS	Other
7	Ancillary & Other	419	MINOR OPHTHALMOLOGICAL INJECTION, SCRAPING AND TESTS	Other
7	Ancillary & Other	420	PACEMAKER AND OTHER ELECTRONIC ANALYSIS	Other
7	Ancillary & Other	421	TUBE CHANGE	Other
7	Ancillary & Other	423	INTRODUCTION OF NEEDLE AND CATHETER	Other
7	Ancillary & Other	425	LEVEL I OTHER MISCELLANEOUS ANCILLARY PROCEDURES	Other
7	Ancillary & Other	427	BIOFEEDBACK AND OTHER TRAINING	Other
7	Ancillary & Other	428	PATIENT EDUCATION, INDIVIDUAL	Other
7	Ancillary & Other	429	PATIENT EDUCATION, GROUP	Other
7	Ancillary & Other	430	CLASS I CHEMOTHERAPY DRUGS	Other
7	Ancillary & Other	431	CLASS II CHEMOTHERAPY DRUGS	Other
7	Ancillary & Other	433	CLASS IV CHEMOTHERAPY DRUGS	Other
7	Ancillary & Other	435	CLASS I PHARMACOTHERAPY	Other
7	Ancillary & Other	436	CLASS II PHARMACOTHERAPY	Other
7	Ancillary & Other	438	CLASS IV PHARMACOTHERAPY	Other
4	ED Medical Visit	870	REHABILITATION	Rehab and Therapy

7	Ancillary & Other	439	CLASS V PHARMACOTHERAPY	Other
7	Ancillary & Other	443	CLASS VII CHEMOTHERAPY	Other
7	Ancillary & Other	450	OBSERVATION	Other
7	Ancillary & Other	451	SMOKING CESSATION TREATMENT	Other
7	Ancillary & Other	455	IMPLANTED TISSUE OF ANY TYPE	Other
7	Ancillary & Other	458	ALLERGY THERAPY	Other
7	Ancillary & Other	459	VACCINE ADMINISTRATION	Other
7	Ancillary & Other	461	CLASS IX COMBINED CHEMOTHERAPY AND PHARMACOTHERAPY	Other
7	Ancillary & Other	462	CLASS X COMBINED CHEMOTHERAPY AND PHARMACOTHERAPY	Other
7	Ancillary & Other	487	MINOR CARDIAC MONITORING	Other
7	Ancillary & Other	488	MINOR DEVICE EVALUATION & ELECTRONIC ANALYSIS	Other
7	Ancillary & Other	489	LEVEL II OTHER MISCELLANEOUS ANCILLARY PROCEDURES	Other
7	Ancillary & Other	490	INCIDENTAL TO MEDICAL VISIT OR SIGNIFICANT PROCEDURE	Other
7	Ancillary & Other	491	MEDICAL VISIT INDICATOR	Other
7	Ancillary & Other	495	MINOR CHEMOTHERAPY DRUGS	Other
7	Ancillary & Other	496	MINOR PHARMACOTHERAPY	Other
7	Ancillary & Other	497	TELEHEALTH FACILITATION	Other
5	Rehab and Therapy	118	NUTRITION THERAPY	Other
7	Ancillary & Other	457	VENIPUNCTURE	Other
7	Ancillary & Other	993	INPATIENT ONLY PROCEDURES	Unassigned
7	Ancillary & Other	999	UNASSIGNED	Unassigned
7	Ancillary & Other	1001	DURABLE MEDICAL EQUIPMENT AND SUPPLIES - LEVEL 1	Unassigned
7	Ancillary & Other	1002	DURABLE MEDICAL EQUIPMENT AND SUPPLIES - LEVEL 2	Unassigned

7	Ancillary & Other	1003	DURABLE MEDICAL EQUIPMENT AND SUPPLIES - LEVEL 3	Unassigned
7	Ancillary & Other	1004	DURABLE MEDICAL EQUIPMENT - LEVEL 4	Unassigned
7	Ancillary & Other	1005	DURABLE MEDICAL EQUIPMENT - LEVEL 5	Unassigned
7	Ancillary & Other	1006	DURABLE MEDICAL EQUIPMENT - LEVEL 6	Unassigned
7	Ancillary & Other	1009	DURABLE MEDICAL EQUIPMENT - LEVEL 9	Unassigned
7	Ancillary & Other	1010	DURABLE MEDICAL EQUIPMENT - LEVEL 10	Unassigned
7	Ancillary & Other	1011	DURABLE MEDICAL EQUIPMENT - LEVEL 11	Unassigned

Outpatient Service Line Assignment Hierarchy

If New_Service is **'Rad/Inf/Chemo'** then Service Line **is 'Rad/Inf/Chemo'**;
Else If service Line not in ('Rad/Inf/Chemo') and New_Service is **'Psychiatric'** then Service Line is **'Psychiatry'**;
Else If Service Line is not in ('Rad/Inf/Chemo','Psychiatry') and New_Service is **'Clinic'** then Service Line is **'Clinic'**;
Else If Service Line is not in ('Rad/Inf/Chemo','Psychiatry','Clinic') and New_Service is **'Rehabilitation'** then Service Line is **'Rehab & Therapy'**;
Else If Service Line is not in ('Rad/Inf/Chemo','Psychiatry','Clinic','Rehab & Therapy') and **(hospid=210333 or hospid=210088 or hospid=210087 or rctcode28 > 0 or rctcode34 > 0 or rctcode90>0)** then Service Line is **'ED'**;
Else If Service Line is not in ('Rad/Inf/Chemo','Psychiatry','Clinic','Rehab & Therapy','ED') and New_Service is **'Major Surgery'** then Service Line is **'Major Surgery'**;
Else If Service Line is not in ('Rad/Inf/Chemo','Psychiatry','Clinic','Rehab & Therapy','ED','Major Surgery') and New_Service is **'Minor Surgery'** then Service Line is **'Minor Surgery'**;
Else If Service Line is not in ('Rad/Inf/Chemo','Psychiatry','Clinic','Rehab & Therapy','ED','Major Surgery','Minor Surgery') and New_Service is **'Cardiovascular'** then Service Line is **'Cardiovascular'**;
Else If Service Line is not in ('Rad/Inf/Chemo','Psychiatry','Clinic','Rehab & Therapy','ED','Major Surgery','Minor Surgery','Cardiovascular') and New_Service is **'CT/MRI/PET'** then Service Line is **'CT/MRI/PET'**;
Else if ECMAD in **(.,0)** then Service Line is **'Unassigned'**;
Else Service Line is New_Service;

Appendix 6. Proposed Market Shift Service Line Consolidation

Service Line	IP/OP	Consolidation Proposal	Proposed Service Collapse
Cardiology	IP	Service Collapse	Cardiology
Cardiothoracic Surgery	IP	Geography Collapse	Cardiothoracic Surgery
Dental	IP	Service Collapse	General Medicine
Dermatology	IP	Service Collapse	General Medicine
Diabetes	IP	Service Collapse	General Medicine
Endocrinology	IP	Service Collapse	General Medicine
Endocrinology Surgery	IP	Geography Collapse	Endocrinology Surgery
ENT Surgery	IP	Geography Collapse	ENT Surgery
EP/Chronic Rhythm Mgmt	IP	Geography/Service Collapse	Invasive Cardiology
Gastroenterology	IP	NA	Gastroenterology
General Medicine	IP	Service Collapse	General Medicine
General Surgery	IP	Geography Collapse	General Surgery
Gynecological Surg	IP	Geography Collapse	Gynecological Surg
Gynecology	IP	Geography/Service Collapse	Ob/Gyn
Hematology	IP	Geography Collapse	Hematology
HIV	IP	Service Collapse	Infectious Disease
Infectious Disease	IP	Service Collapse	Infectious Disease
Injuries/complic. of prior care	IP	Geography Collapse	Injuries/complic. of prior care
Invasive Cardiology	IP	Geography/Service Collapse	Invasive Cardiology
Myocardial Infarction	IP	Service Collapse	Cardiology
Neonatology	IP	Geography/Service Collapse	Neonatology
Nephrology	IP	NA	General Medicine
Neurological Surgery	IP	Geography Collapse	Neurological Surgery
Neurology	IP	NA	Neurology
Newborn	IP	Geography/Service Collapse	Neonatology
Obstetrics/Delivery	IP	Geography/Service Collapse	Ob/Gyn
Oncology_IP	IP	Geography Collapse	Oncology_IP
Ophthalmologic Surg	IP	Geography Collapse	Ophthalmologic Surg
Ophthalmology	IP	Service Collapse	Ophthamology
Orthopedic Surgery	IP	Geography Collapse	Orthopedic Surgery
Orthopedics	IP	Service Collapse	General Medicine

Other Obstetrics	IP	Geography/Service Collapse	Ob/Gyn
Otolaryngology	IP	Service Collapse	General Medicine
Psychiatry_IP	IP	Service Collapse	Psychiatry_IP
Pulmonary	IP	NA	Pulmonary
Rehabilitation_IP	IP	Geography Collapse	Rehabilitation_IP
Rheumatology	IP	Service Collapse	General Medicine
Spinal Surgery	IP	Geography Collapse	Spinal Surgery
Substance Abuse	IP	Service Collapse	Psychiatry_IP
Thoracic Surgery	IP	Geography Collapse	Thoracic Surgery
Trauma	IP	Geography Collapse	Trauma
Unassigned_IP	IP	NA	Unassigned_IP
Urological Surgery	IP	Geography Collapse	Urological Surgery
Urology	IP	Service Collapse	Urology
Vascular Surgery	IP	Geography Collapse	Vascular Surgery
Ventilator Support	IP	Geography Collapse	Ventilator Support
Cardiovascular	OP	Geography Collapse	Cardiovascular
Clinic	OP	NA	Clinic
CT/MRI/PET	OP	NA	CT/MRI/PET
Drugs	OP	NA	Removed
ED	OP	NA	ED
Lab	OP	Service Collapse	Lab
Major Surgery	OP	Geography Collapse	Major Surgery
Minor Surgery	OP	Geography Collapse	Minor Surgery
Other	OP	NA	Other
Pathology	OP	Service Collapse	Lab
Psychiatry_OP	OP	NA	Psychiatry_OP
Radiology	OP	NA	Radiology
Rehab & Therapy	OP	NA	Rehab & Therapy
Unassigned_OP	OP	NA	Unassigned_OP

Appendix 7. Hypothetical Emergency Room Market Shift Example that Masks Avoided Utilization

		Base Year - ER ECMADS	Performance Year - ER ECMADS	Growth	Current Market Shift	Unrecognized Growth / (Decline)	Consolidated Geography Market Shift	Unrecognized Growth / (Decline)	
Same Zips	Hospital A West Baltimore	100	90	(10)	(10)	0	(6)	(4)	Probable market shift being treated as avoided utilization
	Hospital B West Baltimore	200	225	25	10	15	25	-	
Same Zips	Hospital C East Baltimore	250	180	(70)	(20)	(50)	(39)	(31)	Probable avoided utilization being treated as market shift
	Hospital D East Baltimore	100	120	20	20	0	20	-	
	Total	**650**	**615**	**-35**	**0**	**-35**	**0**	**-35**	

Maryland
Hospital Association

May 22, 2019

Allan Pack
Principal Deputy Director
Director, Population-Based Methodologies
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, MD 21215

Dear Allan:

On behalf of Maryland's 61-member hospitals and health systems, the Maryland Hospital Association appreciates the opportunity to comment on the commission's proposed market shift consolidation policy.

MHA supports the proposal to consolidate market shift measurement. We agree the proposed changes make the policy simpler and more predictable. Engaging hospitals to address the underlying clinical and geographical groupings, while reducing the number of markets measured, is important for success.

We also agree the HSCRC staff should establish a work group to evaluate potential changes to the demographic adjustment. Under global budgets, the annual revenue adjustment for age-weighted population changes is a foundational incentive. We appreciate the commission's need to balance population-based revenues with adequate funding for hospitals to treat the patients and communities they serve.

Moving forward, the commission plans to address several cornerstone policies that affect hospital revenues, including capital funding, efficiency, and potentially repurposing regulated hospital space. As the commission considers refining market shift, the demographic adjustment and other policies, we ask that the commission carefully consider aligning all policy changes to have consistent incentives.

Thank you again for your careful consideration of these matters. If you have any questions, please contact me.

Sincerely,

Brett McCone
Senior Vice President, Health Care Payment

cc: Nelson J. Sabatini, Chairman
Joseph Antos, Ph.D., Vice Chairman
Victoria W. Bayless
John M. Colmers
James N. Elliott, M.D.
Adam Kane
Jack Keane
Katie Wunderlich, Executive Director

Maria Harris Tildon
Executive Vice President
Marketing, Communications & External Affairs

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May 14, 2019

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 Recommendation on Market Shift Consolidation" which will be discussed at the May 8, 2019 public meeting. We wish to make the following observations regarding the key points and conclusions presented in the staff Draft Report:

- We would like to thank the staff for developing this report which provides a clear description of the workings of both the Demographic Adjustment (DA) and Market Shift Adjustment (MSA). We think that some of the opposition to these methodologies in the past has been a result of confusion regarding the core principles and actual operation of the MSA and DA. We anticipate that the staff's clarifications and analysis in this report will facilitate the development of beneficial modifications to these policies moving forward.

- We are very supportive of the staff's attempt to consolidate the geography/product line "cells" used in the MSA and thus simplify the overall methodology. We concur that the high level of granularity of the analysis has contributed to a degree of statistical instability which is unnecessary and has undermined the confidence in the efficacy of the policy. We believe that the staff's analysis, which shows that further consolidation and simplification of the approach does not materially change the overall results (either statewide or on an individual hospital level) and provides justification for the recommended approach. We look forward to discussing with staff ways in which the MSA might be further consolidated and simplified, going forward.

- We also support the staff's recommendation to develop an industry workgroup to study both the operation and the application of the DA policy. We have ideas that may improve the policy application and plan to share with the workgroup.

- Finally, we believe that the main issue associated with the MSA stems from the fixed nature of hospital Global Budgets and the inability of the industry to develop a stable, predictable and manageable system of patient attribution. We encourage the staff's efforts to make further progress in this area and we would be happy to offer our thoughts on ways in which a population-based payment system can be more fully implemented in the State.

Overall, we think that the staff report outlines an appropriate direction for the rate setting system through use of targeted modifications to the MSA methodology and anticipates further modifications to the rate system that will improve its operation in the future. Thank you for this

opportunity to provide our comments on the staff's Draft MSA Consolidation Recommendation. We look forward to discussing these observations with staff in the near future and with you and the Commission at the June public meeting of the HSCRC.

Sincerely,

Maria Harris Tildon

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

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Finance Shared Services

May 22, 2019

Katie Wunderlich
Executive Director
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, MD 21215

Dear Ms. Wunderlich:

On behalf of the University of Maryland Medical System (UMMS), representing 15 acute care hospitals and health care facilities, we are submitting comments in response to the Health Services Cost Review Commission's (HSCRC) Draft Recommendation for Market Shift Consolidation. We appreciate the time spent by Commission Staff in developing and vetting this proposal with the industry over the past several months.

We support the HSCRC's proposal to consolidate and reduce the number of cells within the current market shift policy. Currently, small cell sizes contribute to large fluctuations and inconsistencies within the methodology and cause the inequitable treatment of volume from period to period and cell to cell. Evaluation of programmatic investments and service line specific business planning have become extremely difficult for hospitals for these reasons. Consolidating small cells into larger groups will allow for more consistent and predictable results, as minor fluctuations in volume will not have such a significant impact on the overall awarded market shift. The proposed consolidation of medical service lines along with the change from zip code to counties for surgical and highly specialized product lines should help reduce the frequency of excessive market shift adjustments for lower volume areas. UMMS looks forward to continuing to work with Commission staff and the industry to evaluate the market shift methodology for other refinement opportunities, including geographic consolidation for medical cases and more appropriate variable cost factors for high cost surgical services.

UMMS also supports the staff recommendation to develop a workgroup to review the annual demographic adjustment. This adjustment is a vital part of the Global Budget Methodology and is one of the only sources of revenue for hospitals to fund use rate increases. UMMS agrees with commission staff that an in-depth review of the distribution of these funds is warranted. Current methodology allocates funds to hospitals based upon their share of the market within a zip code and age cohort.

Distributing funds in this manner inherently assumes that use rates will follow current volume distribution patterns. Use rates, especially at the zip code level, are not consistent from period to period nor are they predictable at any granular level of detail. Commission staff reviewed and shared use rates across the state compared to the demographic funding by hospital as part of the Volume Methodology Workgroup. In many cases, demographic funding did not adequately fund use rates experienced by some hospitals, while at the same time, significantly overfunded hospitals with declining use rates. Inherently, this raised many questions regarding the accuracy and fairness of the demographic adjustment. For these reasons, we support the creation of a workgroup to study the demographic adjustment and welcome the opportunity to participate in that process to develop a methodology that funds use rates more appropriately.

We look forward to the final staff recommendation at the June 2019 Commission meeting. If you have any questions, please do not hesitate to contact me.

Sincerely,

Alicia Cunningham

Senior Vice President, Corporate Finance & Revenue Advisory Services

Cc: Chairman Nelson Sabatini
HSCRC Commissioners
John Ashworth, UMMS Interim CEO
S. Michelle Lee, UMMS CFO

JOHNS HOPKINS
MEDICINE

Kevin W. Sowers, MSN, RN, FAAN

President
Johns Hopkins Health System

Executive Vice President
Johns Hopkins Medicine

May 22, 2019

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

Dear Chairman Sabatini:

On behalf of the Johns Hopkins Health System (JHHS), we appreciate the opportunity to comment on the HSCRC's Draft Recommendation for Market Shift Consolidation. We appreciate the efforts of the Commission staff in crafting a recommendation that improves the current Market Shift Methodology. We believe that the staff recommendation is certainly a step in the right direction, but is just that, a step in what should be an evolving process to continuously improve the HSCRC rate setting methodologies.

Hospital global budgets were developed at a point in time to regulate revenue, but over time, hospital market share changes due to a variety of conditions. The market shift policy is designed to adjust global budgets to recognize these changes. The policy is designed to shift resources to hospitals whose growth exceeds population growth because the facility is acquiring volume that was once treated in another facility. This policy is an attempt to redistribute hospital resources equitably in the global budget model. To meet that goal, the market shift policy should reflect certain basic principles that link payments to services provided while making the link between volume and payment distant enough not to provide volume incentives. These basic principles are as follows:

1. Revenue should follow the patient for medically necessary services.
2. Variable costs differ across service lines so that a constant variable cost factor creates distortions for hospitals providing these services.
3. The regulatory system should encourage competition.
4. The system should promote reductions in excess capacity and promote efficient hospitals.

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1. ***Revenue should follow the patient for medically necessary services.***

This basic principle of equity guarantees that resources are available to the facilities providing medically necessary care to patients. The staff's policy for adjusting global budgets for market shifts limits GBR adjustments to an effective variable cost factor of approximately 20-30% (excluding population growth) for facilities experiencing market share growth.

The market shift policy adjusts for volume changes when the shift does not include potentially avoidable volume. However, markets can experience changes in use rates with shifting demographics and changing technology. Younger populations may see rising birth rates; aging populations may see rising cancer rates, for example. Neither the current demographic adjustment nor the market shift policy address these use rate changes over time.

HSCRC global budgets are designed to remove incentives for hospitals to increase volume. As hospitals experience growth that is shifted from other facilities, however, the growing facility is taking on additional costs of patient service care. The relationship between cost and volume is not simply described, but there is direct relationship between expanding volume and costs. An equitable policy for recognizing market shifts must take this into account or the global budget model will not be sustainable over the long term. We look forward to working with staff to help improve this methodology.

2. ***Variable costs differ across service lines so that a constant variable cost factor creates distortions for hospitals providing these services.***

Some service lines have higher variable costs for providing services than others. If medical devices or specialty drugs are required in treatments, costs rise substantially when care is provided and decline when volume declines. Current HSCRC policy presumes a 50% variable cost factor, but when the market shifts care from one facility to another in these high variable cost service lines, this policy penalizes the growing facility and overcompensates the declining facility. The staff should consider utilizing variable cost factors specific to service lines.

3. ***The regulatory system should encourage competition.***

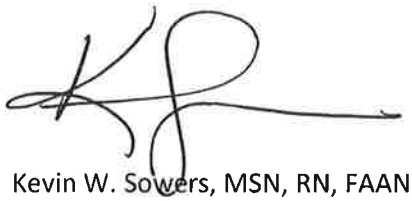
As the global budget model continues to shift the hospital industry from an emphasis on volume to value, allowing competition to direct resources offers the HSCRC a long-term approach for improving quality of care and reducing the cost of treating patients in the hospital. By respecting patient choice (through self-paid choice or indirectly through the physician directing the patient's choice of hospital), the regulatory system would reward high quality facilities based on the patient's perspective or with payers directing patients to low-cost, high-quality facilities. Because the market shift adjustment is prospective only and occurs at a fraction of experienced volume change, the incentive to drive volume would be substantially muted. Allowing the revenue to follow the patient more directly in the market shift policy would improve the long-term sustainability of the model.

4. ***The system should promote reductions in excess capacity and promote efficient hospitals.***

Finally, while the protection offered under the global budget policy to keep revenue when volume is declining removes the link between volume and revenue, over time the effect of this policy is to promote excess capacity in the system and create inefficiencies. This effect is the opposite of what should occur if the goals of the triple aim are to be achieved under the State's demonstration model.

Thank you for the opportunity of comment on the Draft Recommendation for Market Shift Consolidation. The HSCRC has demonstrated that the global budget approach offers a strong short term approach to controlling system revenue, and we believe that the principals we have discussed here offer an approach for making the policy sustainable over time. We look forward to working with HSCRC staff to refine the global budget model and the Market Shift policy. Please contact us if you have any questions.

Sincerely,



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Final Recommendation for the Update Factors for Rate Year 2020

June 12, 2019

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Table of Contents

List of Abbreviations

ACA	Affordable Care Act
CMS	Centers for Medicare & Medicaid Services
CY	Calendar year
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
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

Summary

The following report includes a final recommendation for the Update Factor for Rate Year (RY) 2020. This update is designed to meet the Total Cost of Care Requirements while keeping healthcare affordable in the State of Maryland.

The staff requests that Commissioners consider the following final recommendations:

a) Provide an overall increase of 3.59 percent for revenue (inclusive of an uncompensated care increase and deficit assessment reduction), resulting in a 3.28 percent per capita revenue increase for hospitals under Global Budgets, as shown in Table 2.
    i) Allocate 0.19 percent of the total inflation allowance to high cost outpatient oncology and infusion drugs, providing a 10 percent increase based on the amount each hospital reported for estimated cost and utilization for the top 80 percent of these drugs for RY 2018.
    ii) Provide a conditional additional allowance to the two major Academic Medical Centers of one percent for growth in high cost inpatient procedures and intensity for RY 2020.
    iii) Prospectively reduce Global Budgets by 0.30 percent statewide for Potentially Avoidable Utilization.
b) Provide an overall increase of 2.46 percent to the rates of hospitals not under Global Budgets (freestanding psychiatric hospitals and Mt. Washington Pediatric Hospital).

Introduction & Background

The Maryland Health Services Cost Review Commission (HSCRC or Commission) 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.

Effective January 1, 2013, the State entered into an All-Payer Model Agreement with the Center for Medicare & Medicaid Services ("CMS"), which required the State to limit the growth in total hospital costs per resident in line with the long term growth in the economy, to achieve Medicare savings per beneficiary relative to national Medicare growth rates, to improve quality, and to transform the hospital reimbursement system away from fee for service to population-based payments. Preliminary data from December 2018 shows that the State has met all of the requirements of the All-Payer Model. In July 2018, CMS approved a new 10-year Total Cost of Care (TCOC) Model Agreement for Maryland, which began January 1, 2019. Under the new TCOC Model, the State committed to continue to limit the growth in hospital costs in line with economic growth, reach an annual Medicare total cost of care savings rate of $300 million by 2023 ("the Medicare TCOC Savings Requirement"), continue quality improvements, and improve the health of the population. The Medicare TCOC Savings Requirement compares the growth in total Medicare FFS expenditures per Maryland Medicare beneficiary to the national growth rate. These expenditures include both hospital and non-hospital costs. Because the State lacks regulatory authority over providers other than hospitals, meeting the Medicare TCOC savings requirement will require a greater emphasis on initiatives that control the total cost of care though transformation and population

health improvement efforts. The HSCRC will increasingly tie hospitals revenue adjustments to Medicare Total Cost of Care performance under the Medicare Performance Adjustment (MPA) Policy.

To meet the ongoing requirements of the Model, HSCRC will need to continue to ensure that state-wide hospital revenue growth is in line with the growth of the economy. The HSCRC will need to place increased emphasis on ensuring that the Medicare TCOC Savings Requirement is met. The approach to ensuring that the RY 2020 annual update is in line with these Model requirements is outlined in this report.

Update Factors are Revenue Updates

It is important to note that the proposed update factor is a revenue update. A revenue update incorporates both price and volume adjustments for hospital revenue under Global Budget Revenues. The proposed update should be compared to per capita growth rates, rather than unit rate changes.

Hospital Revenue Types Included in this Recommendation

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 freestanding psychiatric hospitals and Mount Washington Pediatric Hospital.

This recommendation proposes Rate Year (RY) 2020 update factors for both Global Budget Revenue hospitals and HSCRC regulated hospitals with non-global budgets.

Overview of Final Update Factors Recommendations

For RY 2020, HSCRC staff is proposing an update of 3.28 percent per capita for global revenues and an update of 2.46 percent for non-global revenues. These figures are described in more detail below.

Calculation of the Inflation/Trend Adjustment

For hospitals under both revenue types described above, the inflation allowance is central to HSCRC's calculation of the update adjustment. The inflation calculation blends the weighted Global Insight's Fourth Quarter 2018 market basket growth estimate with a capital growth estimate. For RY 2020, HSCRC staff combined 91.20 percent of Global Insight's First Quarter 2019 market basket growth of 3.10 percent with 8.80 percent of the capital growth estimate of 1.50 percent, calculating the gross blended amount as a 2.96 percent inflation adjustment.

Update Factor Recommendation for Non-Global Budget Revenue Hospitals

For non-global budget hospitals (psychiatric hospitals and Mt. Washington Pediatric Hospital), HSCRC staff proposes applying the FFY 2020 Inpatient Psychiatric Facilities Medicare productivity reduction of

0.50 percent to the inflation adjustment. When subtracting the 0.50 percent productivity adjustment from the gross blended inflation adjustment of 2.96 percent growth, this results in a proposed update of 2.46 percent. Additionally, HSCRC staff note that these hospitals receive a volume adjustment, rather than a population adjustment. HSCRC staff continues to work toward implementing quality measures for these hospitals in future rate years.

Table 1

	Global Revenues	Psych & Mt. Washington
Proposed Base Update (Gross Inflation)	2.96%	2.96%
Productivity Adjustment		-0.50%
Proposed Update	2.96%	2.46%

Update Factor Recommendation for Global Budget Revenue Hospitals

In considering the system-wide update for the hospitals with global revenue budgets under the Total Cost of Care Model, HSCRC staff sought to achieve balance among the following conditions:

- Meeting the requirements of the Total Cost of Care Model agreement;
- Providing hospitals with the necessary resources to keep pace with changes in inflation and demographic changes;
- Ensuring that hospitals have adequate resources to invest in the care coordination and population health strategies necessary for long-term success under the Total Cost of Care Model; and
- Incorporating quality performance programs.

As shown in Table 2, after accounting for all known changes to hospital revenues, HSCRC staff estimates net revenue growth (before accounting for changes in uncompensated care and assessments) of 3.64 percent and per capita growth of 3.33 percent for RY 2020. After accounting for changes in uncompensated care and assessments, the HSCRC estimates net revenue growth at 3.59 percent with a corresponding per capita growth of 3.28 percent for RY 2020.

Staff needs to split the annual Rate Year revenue into six month targets to calculate financial tests, which are performed on Calendar Year (CY) results. Consistent with the past several years, the staff will apply 49.73 percent of the Total Approved Revenue to determine the mid-year target for the calendar year calculation, with the full amount of RY 2020 estimated revenue used to evaluate the Rate Year 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.

Net Impact of Adjustments

Table 2 summarizes the net impact of the HSCRC staff's final recommendation for inflation, volume, Potentially Avoidable Utilization (PAU) savings, uncompensated care, and other adjustments to global

revenues. Descriptions of each step and the associated policy considerations are explained in the text following the table.

Table 2

Balanced Update Model for RY 2020			
Components of Revenue Change Linked to Hospital Cost Drivers/Performance			
			Weighted Allowance
Adjustment for Inflation (this includes 3.10% for compensation)			2.77%
- Rising Cost of Outpatient Oncology Drugs			0.19%
Gross Inflation Allowance	**A**		**2.96%**
Care Coordination/Population Health	**B**		**0.00%**
Adjustment for Volume			
-Demographic /Population			0.30%
-Transfers			
-Drug Population/Utilization			
Total Adjustment for Volume	**C**		**0.30%**
Other adjustments (positive and negative)			
- Set Aside for Unknown Adjustments	D		0.10%
- Low Efficiency Outliers	E		-0.04%
- Capital Funding -Adventist White Oak Medical Center	F		0.09%
- Categoricals & Innovation (1%)	G		0.23%
-Reversal of one-time adjustments for drugs	H		-0.03%
Net Other Adjustments	**I=**	**Sum of D thru H**	**0.34%**
Quality and PAU Savings			
-PAU Savings	J		-0.30%
-Reversal of prior year quality incentives	K		0.53%
-QBR, MHAC, Readmissions			
-Positive incentives & Negative scaling adjustments	L		0.18%
Net Quality and PAU Savings	**M =**	**Sum of J thru L**	**0.41%**
Total Update First Half of Rate Year 20			
Net increase attributable to hospitals	**N =**	Sum of A + B + C + I + M	**4.02%**
Per Capita First Half of Rate Year (July - December)	**O =**	(1+N)/(1+0.30%)	**3.71%**
Adjustments in Second Half of Rate Year 20			
-Oncology Drug Adjustment	P		0.00%
-QBR	Q		-0.37%
Total Adjustments in Second Half of Rate Year 20	**R =**	P + Q	**-0.37%**
Total Update Full Fiscal Year 20			
Net increase attributable to hospital for Rate Year	**S =**	N + R	**3.64%**
Per Capita Fiscal Year	**T =**	(1+S)/(1+0.30%)	**3.33%**
Components of Revenue Offsets with Neutral Impact on Hospital Finanical Statements			
-Uncompensated care, net of differential	U		0.10%
-Deficit Assessment	V		-0.16%
Net decreases	**W =**	U + V	**-0.06%**
Total Update First Half of Rate Year 20			
Revenue growth, net of offsets	**X =**	N + W	**3.96%**
Per Capita Revenue Growth First Half of Rate Year	**Y =**	(1+X)/(1+0.30%)	**3.65%**
Total Update Full Rate Year 20			
Revenue growth, net of offsets	**Z =**	S + W	**3.59%**
Per Capita Fiscal Year	**AA =**	(1+Z)/(1+0.30%)	**3.28%**
Private Payer Growth Rate, based on Total Update for Full Rate Year			**4.79%**
Public Payers Growth Rate			**3.09%**

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 2.96 percent. The gross inflation allowance is calculated using Global Insight's First Quarter 2019 market basket growth of 3.10 percent with 8.80 percent of the capital growth 1.50 percent estimate. The adjustment for inflation includes 3.10 percent for compensation. A portion of the 2.96 inflation allowance (0.19 percent) will be allocated to hospitals in order to accurately provide revenues for increases in outpatient oncology drugs. This drug cost adjustment is further discussed below.

- **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 began allocating a specific part of the inflation adjustment to fund increases in the cost of drugs in Rate Year 2016, based on the portion of each hospital's total costs that were comprised of drug costs.

  In addition to the drug inflation allowance, in RY 2017, HSCRC initiated a utilization adjustment for changes in use of high cost oncology and infusion drugs. The adjustment for change in use is made utilizing information provided in a supplemental report provided by the hospitals for the top 80 percent of these specified outpatient medications. Half of the estimated cost changes due to usage or volume changes are recognized as a one-time adjustment and half are recognized as a permanent adjustment.

  In 2019, staff prepared a drug funding analysis evaluating funding levels by hospital and drug category from RY 2013 through RY 2018. Drug costs were split into three categories: inpatient drugs, outpatient oncology and infusion drugs, and other outpatient drugs. In this evaluation, staff found that oncology and infusion drug costs averaged a 10 percent annual increase, while inpatient and other outpatient drugs rose more in line with general inflation. As a result of these findings, staff is recommending a modification to the approach it used in RY 2019 to focus the additional inflation for drugs to high cost outpatient oncology and infusion drugs. This will result in a higher growth allowance for these high cost drugs, while continuing to provide inflation for other categories of drugs through the overall inflation allowance. For Rate Year 2020, staff proposes to apply a 10 percent growth allowance, based on drug-specific growth trends, to the top 80 percent of the specified outpatient medications, as reported on hospitals' supplemental drug cost for RY 2018. In RY 2019, 0.31 percent was set aside for inflation for drugs. For RY 2020, staff proposes to set aside 0.19 percent of the inflation allowance to apply to high cost oncology and infusion drugs, leaving the remaining drug inflation together with the general inflation allowance.

  For Rate Year 2021, staff may explore use of a standard list of drugs, which could be used to calculate the inflation allowance as well as the drug utilization adjustment component of funding

for these high cost drugs. Staff will review this possibility and the standard list of drugs with stakeholders during the upcoming months.

- **Adjustments for Volume:** The Maryland Department of Planning's estimate of population growth for CY 2018 is 0.30 percent. For RY 2020, the staff are proposing recognizing the full value of the 0.30 percent growth for the Demographic Adjustment to hospitals in keeping with prior year norms.

- **Set-Aside for Unforeseen Adjustment:** Staff recommends a 0.10 percent set-aside for unforeseen adjustments during RY 2020.

- **Low Efficiency Outliers:** Staff built in a -0.04 percent reduction to account for the Midtown spend down for RY 2020. The revenue impact is a $7.4 million reduction.

- **Capital Funding:** Adventist Health Care is opening a new hospital, White Oak Medical Center, in Silver Spring Maryland. This facility is expected to open in August of 2019. This recommendation includes 0.09 percent for capital for the opening of this facility, which is approximately $15 million as approved by the Commission during the CON process.

- **Categorical Cases & Innovation Funding:** Existing categorical cases include transplants, burn cases, cancer research cases, as well as Car-T cancer cases, and Spinraza cases. The HSCRC staff has been working to develop an approach to provide a revenue adjustment for these and other expensive therapies performed primarily at University of Maryland Medical Center and Johns Hopkins Hospital. In Rate Year 2019, the HSCRC provided these two AMC hospitals an additional one percent revenue adjustment to create a fixed pool of funds for these and other quaternary services. For RY 2020, staff is again proposing to provide these two AMCs an additional one percent revenue adjustment for RY 2020. Similar to RY 2019, this adjustment will be contingent upon receipt of data regarding productivity and cost levels relative to national peers and ongoing cost savings efforts submitted by the AMCs, which are essential in assuring that the AMCs are improving productivity levels. HSCRC staff will continue to evaluate the level of funding and funding mechanisms that will be employed for RY 2021 and beyond, and the Commission will need to continue to deliberate how to fund these types of services in the future.

- **QBR Adjustment:** CMS provides data for the Quality Based Reimbursement (QBR) adjustment. Due to the data delivery schedule, HSCRC does not have the final data available to calculate this adjustment at this time. HSCRC expects the adjustment to be approximately -0.37 percent, based on the changes in Commission policy and preliminary modeling. HSCRC staff will include this adjustment in the second half of RY 2020.

- **Quality Scaling Adjustments:** Quality scaling adjustments include Maryland Hospital Acquired Conditions (MHAC) and Readmission Reduction Incentive Program (RRIP). The RY 2019 adjustments have been restored in the base and new adjustments are reflected in staff's recommendation. The amount for these two programs which will be adjusted for in the first half of the rate year is 0.18 percent.

- **PAU Savings Reduction:** The statewide RY 2020 PAU savings adjustment is now calculated based on update factor inflation and demographic adjustment applied to CY 2018 PAU revenue. RY 2020 PAU savings adjustment represents the change between RY 2019 and RY 2020. Previous years of PAU savings adjustments are not reversed out.

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):** The proposed uncompensated care adjustment for RY 2020 will be 0.10 percent. The amount in rates was 4.16 percent in RY 2019, and the proposed amount for RY 2020 is 4.26 percent. This is the first year since 2014 that staff is not reducing UCC in rates since 2014. This outcome is to be expected as Medicaid Expansion and Affordable Care Act Enrollment have plateaued, and thus UCC has remained stable.
- **Deficit Assessment:** The legislature reduced the deficit assessment by $25 million in RY 2020, and as a result, this line item is -0.16 percent.

Additional Revenue Variables

In addition to these central provisions, there are additional variables that the HSCRC considers. 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.

PAU Savings Updated Methodology

The PAU Savings Policy prospectively reduces hospital global budget revenues in anticipation of volume reductions due to care transformation efforts. Starting in RY2020, the calculation of the statewide value of the PAU Savings will be included in the Update Factor Recommendation; however, PAU measurement policy will be presented separately. For this year, a brief summary of the PAU performance and measure methodology is available in the appendix, but in subsequent years, staff plans to produce PAU policy reports that will include measure and hospital-specific scaling discussions.

Starting in RY 2020, the incremental amount of statewide PAU Savings reductions will be determined formulaically using inflation and demographic adjustment applied to the amount of PAU revenue (see Table 3). In previous years, staff reversed out the prior year cumulative PAU reduction and recalculated the cumulative PAU reduction with an incremental increase to realize additional savings from continued reductions in PAU. In the current policy, staff recommends keeping prior year reductions in place and only implementing additional incremental reductions in keeping with actual rate setting implementation norms. With this change, staff also proposes discontinuing the additional protection for hospitals with high socioeconomic burden, as the smaller incremental reduction lessens the need for continued protections.

Staff compared the actual PAU savings reductions from RY 2014-RY 2019 to the cumulative formulaic inflation-based approach and found that cumulatively PAU savings reductions were about $7.2 million more than under the formulaic approach. Therefore, staff and stakeholders suggest reducing the RY2020 reduction amount by $7.2 million ($58.1 million to $50.8 million) to ensure that the cumulative PAU reduction and cumulative PAU inflation net out to zero in RY 2020. This will result in a RY 2020 PAU savings reduction of about -0.3021 percent statewide. For simplicity's sake, staff recommends rounding this value to -0.30 percent.

Table 3

Statewide Results		**Value**
RY 2019 Total Estimated Permanent Revenue	A	$16,842,884,479
Total RY20 PAU %	B	10.77%
Total RY20 PAU $	C	$1,922,894,085
Statewide Total Calculations (formulaic)		**Value**
RY 2020 Inflation Factor (preliminary)	D	3.02%
RY 2020 Revenue Adjustment $	E=C*D	-$58,071,401
Ry 2020 Revenue Adjustment %	F=E/A	-0.345%
Statewide Total Calculations (adjusted)		
Cumulative difference	G	-$7,188,437
RY 2020 Revenue Adjustment $	H=E-G	-$50,882,964
Ry 2020 Revenue Adjustment %	I=H/A	-0.302%
Recommended RY2020 Revenue Adjustment %		-0.30%

Change in Differential

In December 2018, the Commission voted to approve staff's recommendation to increase the differential from 6.0 percent to 7.7 percent effective July 1, 2019. The State of Maryland has employed a differential since the 1970s whereby public payers (Medicare and Medicaid) pay less than other payers (primarily commercial payers) due to business practices that avert bad debt in hospitals and keep Maryland's hospital costs low. Hospital charges are adjusted via a markup to ensure that the differential's reduction in charges to public payers does not result in a decline in hospitals' total revenue. Given recent trends of increasing bad-debt write-offs in commercial coverage, it is most equitable that the differential be increased 1.7 percentage points (from the current 6.0 percent to 7.7 percent) to ensure that these costs are not shifted to Medicare and Medicaid. This change accounts for the changes in business practices of private Maryland payers that have resulted in higher bad debt costs. To implement the differential, hospital rates will be increased by approximately 1.2 percent. Medicare and Medicaid will receive an additional discount of 1.7 percent off of charges, and the net revenue effect will be revenue neutral to hospitals. As reflected at the bottom of table 2, this change in the differential results in a private payer

growth rate of 4.76 percent and a public payer growth rate of 3.06 percent based on the full rate year update.

With the adoption of this increased differential, the Commission specified that any savings to Medicare from this adjustment could not be utilized to result in a higher all-payer rate adjustment. As shown in the following tables 5a and 5b, staff is using the all-payer revenue increase to evaluate whether Maryland is meeting the all-payer and Medicare growth targets, rather than the lower Medicare increase resulting from the changed public payer differential. Through this approach, staff is ensuring that the savings to Medicare resulting from the differential calculation are not increasing the level of update allowed to hospitals.

Consideration of All-Payer Model Agreement Requirements & National Cost Figures

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

Medicare Financial Test

Based on the staff's calculations, the proposed update keeps Maryland within the constraints of the TCOC Model's Medicare savings test. This test requires the Model to generate $300 million in annual Medicare fee-for-service (FFS) savings in total cost of care expenditures (Parts A and B) by 2023. The TCOC Model Medicare Savings Requirement is different from the previous All-Payer Model Medicare savings requirement in several ways. First, as previously discussed, Maryland's Total Cost of Care Model Agreement progresses to setting savings targets based on total costs of care, which includes non-hospital cost increases, as opposed to the hospital only requirements of the All-Payer Model. This shift ensures that spending increases outside of the hospital setting do not undermine the Medicare hospital savings resulting from Model implementation. Additionally, the change to total cost of care focuses hospital efforts and initiatives across the spectrum of care and creates incentives for hospitals to coordinate care and to collaborate outside of their traditional sphere for better patient care. Secondly, the All-Payer Model Savings Requirement was a *cumulative* savings test, where the savings for each year relative to the base period were added up to determine the total *hospital* savings. The TCOC Model requires that the State reach *annual* savings of $300 million relative to the national growth rate by 2023, relative to a 2013 base year. Thus, there must be sustained improved performance over time to meet the new TCOC Medicare Savings Requirements. The new TCOC Model contains specific annual Medicare Savings Requirements for each year. Based on the CY 2018 performance, staff expects to exceed the TCOC Model's annual Savings Requirement of $120 million for performance year one (CY 2019). However, similar to the All-Payer Model, there are TCOC growth guardrails. Maryland's Medicare TCOC growth may not exceed the national Medicare TCOC growth rate in any two successive years and Maryland may

not exceed the national growth rate by more than one percent in any year. Corrective actions are required if these limits are exceeded.

The growth in Medicare expenditures in Maryland outside of hospitals continues to exceed the national growth rate. Under the All-Payer Model, the HSCRC built a conservative approach to estimating variations in hospital cost growth. For the Total Cost of Care Model, HSCRC staff proposes to extend this approach to evaluating variations in Total Cost of Care performance. This revised approach will be discussed in the following section.

Meeting Medicare Savings Requirements and Total Cost of Care Guardrails

In order to ensure Model savings and guardrails are being met, staff compared Medicare growth estimates to the all-payer spending limits. Because the actual revenue resulting from updates in RY 2019 affect the CY 2019 results, staff must convert the recommended RY 2020 update to a calendar year growth estimate. Table 4 below shows the current revenue projections for CY 2019 to assist in estimating the impact of the recommended update factor together with the projected RY 2019 results. The overall increase from the bottom of this table is used in Table 5a.

Table 4

Estimated Position on Medicare Target		
Actual Revenue CY 2018		17,341,823,084
Step 1:		
Estimated Approved GBR RY 2019		17,494,637,515
Actual Revenue 7/1/18-12/31/18		8,596,133,432
Projected Revenue 1/1/19-6/30/19	**A**	**8,898,504,082**
Step 2:		
Estimated Approved GBR RY 2020		18,187,268,870
Permanent Update		3.96%
Step 3:		
Estimated Revenue 7/1/19-12/31/19 (after 49.73% & seasonality)		9,044,528,809
Reversal of AdHoc One-Times*		(1,000,000)
Estimated Undercharge Percentage**		(22,611,322)
	B	**9,020,917,487**
Step 4:		
Estimated Revenue CY 2019	**A+B**	**17,919,421,569**
Increase over CY 2018 Revenue		3.33%

*Hopkins Payback, Shady Grove GBR Adj, CarT & Spinraza

**0.25% estimated undercharge to mid-year target

Steps to explain Table 4 are described as below:

· Step 1: The table begins with the estimated global revenue for RY 2019 and actual revenue for the last six months for CY 2018 to calculate the projected revenue for the first six months of CY 2019 (i.e. the last six months of RY 2019).
· Step 2: This step shows the estimated RY 2020 global budget revenue based on the information that staff have available to date. The permanent update over RY 2018 of 3.96 percent represents the portion of the RY 2020 update provided during the calendar year 2019, 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 2020 by applying the recommended mid-year split percentage of 49.73 percent to the estimated approved revenue for RY 2020 and hospital specific seasonality adjustments. An adjustment for the temporary rate adjustment for Johns Hopkins Hospital and Adventist Behavioral Health is also added to revenues. Staff also included a 0.25 estimate for CY 2019 undercharge into this amount.
· Step 4: This step shows the resulting estimated revenue for CY 2019 and then calculates the increase over actual CY 2018 Revenue.

For the past five updates, Maryland obtained calendar year Medicare fee-for-service growth estimates from the CMS Office of the Actuary. The projected per capita amount for Medicare Parts A and B for CY 2019 is 4.03 percent. Due to the variability in the estimates from actual performance, particularly with estimates beyond the current year, staff is proposing using actual national Medicare FFS total cost of care growth from the previous calendar year moving forward in our guardrail and savings test, absent large policy changes that would suggest significantly different growth estimates. National Medicare FFS total cost of care growth for CY 2018 was 3.50 percent, shown in line A of Table 5a and 5b.

During CY 2014-CY 2018, 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.

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. This conservative statistic has been updated each year using data provided by HSCRC. For the RY 2020 update, CareFirst and HSCRC staff calculated a difference of 0.83 percent, which used a five-year average difference between Maryland Medicare and all-payer claims reduced by the average annual absolute variance.

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.’ In an effort to ensure that Maryland does not exceed the national Medicare growth rate in CY 2019, 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 2020. Staff modeled non-hospital excess growth, inclusive of a conservative factor of -1.18 percent, which was calculated by taking a five year average of non-hospital excess growth and additionally accounting for the absolute average variance to provide conservatism.

In prior years the staff has included a 0.50 percent reduction in the Medicare Growth target to ensure the State achieves savings under the All-Payer Model. This year we omitted that adjustment in both tables 5a and 5b, as results for CY 2018 show the State well ahead of savings targets. In future years this target adjustment will not be necessary, assuming the Commission subsequently approves the MPA Efficiency Component draft recommendation reviewed in April 2019 which provides a vehicle for achieving savings on a Medicare-only basis. If that policy is not approved the all-payer approach to achieving Medicare savings will be restored to the update factor.

The first scenario, shown in Table 5a calculates savings using the calendar year growth calculated in Table 4. The second scenario, shown in Table 5b calculates savings using the growth rate projection of 2.31 percent per capita for the second half of the rate year from January to June. Both scenarios project a favorable outcome based on staff's projections.

Table 5a – Using Calendar Year Growth Estimate

Maximum Increase that Can Produce Medicare Savings				
Medicare				
Medicare TCOC Growth (CY 2018 3.5%)	A	3.50%		
Savings Goal for FY 2020	B	0.00%		
Maximum growth rate that will achieve savings (A+B)	C	3.50%		
Conversion to All-Payer				
Actual statistic between Medicare and All-Payer *with conservatism*		0.83%	**Recommendation:**	**Savings:**
Excess Growth for Non-Hospital Cost Relative to the Nation *with conservatism*		-1.18%		
Net Difference Statistic Related to Total Cost of Care	D	-0.35%		
Conversion to All-Payer growth per resident (1+C)*(1+D)-1	E	**3.14%**	**3.02%**	**0.12%**
Conversion to total All-Payer revenue growth (1+E)*(1+0.30%)-1	F	**3.45%**	**3.33%**	**0.12%**

Table 5b – Using Second Half of Rate Year Growth Estimate

Maximum Increase that Can Produce Medicare Savings				
Medicare				
Medicare TCOC Growth (CY 2018 3.5%)	A	3.50%		
Savings Goal for RY 2020	B	0.00%		
Maximum growth rate that will achieve savings (A+B)	C	3.50%		
Conversion to All-Payer				
Actual statistic between Medicare and All-Payer *with conservatism*		0.83%	**Recommendation:**	**Savings:**
Excess Growth for Non-Hospital Cost Relative to the Nation *with conservatism*		-1.18%		
Net Difference Statistic Related to Total Cost of Care	D	-0.35%		
Conversion to All-Payer growth per resident (1+C)*(1+D)-1	E	**3.14%**	**2.31%**	**0.82%**
Conversion to total All-Payer revenue growth (1+E)*(1+0.30%)-1	F	**3.45%**	**2.62%**	**0.83%**

Staff also modeled the growth and compared it to economic growth in Maryland as measured by the State Gross Domestic Product (State GDP, which was previously called the Gross State Product (GSP)). The purpose of this modeling is to ensure that healthcare remains affordable in the state. Staff calculated the compounded annual growth rate (CAGR) for three years using the most updated State GDP numbers

available. (CY14-CY17). The 3-year CAGR calculation shows a per capita amount of 3.42 percent. Staff compared that number to the calendar year increase shown in Table 6 to ensure that the update provided in this final recommendation would maintain growth in line with economic growth. The chart below shows this comparison.

Table 6 – Using Calendar Year Growth Estimate

Maximum Increase that Maintains Affordability				
State Gross Domestic Product per Capita (3 year CAGR 3.42%)	A	3.42%	**Recommendation:**	**Savings:**
Savings Goal for FY 2020	B	0.00%		
Maximum growth rate that will achieve savings (A+B)	C	**3.42%**	**3.02%**	**0.40%**
Conversion to total All-Payer revenue growth (1+C)*(1+0.30%)-1	D	**3.73%**	**3.33%**	**0.40%**

Medicare's Proposed National Rate Update for FFY 2020

CMS published proposed updates to the federal Medicare inpatient rates for FFY 2020 in the Federal Register in mid-April 2019. These updates are summarized in Table 7 below. These updates will not be finalized for several months and are subject to change. In the proposed rule, CMS would increase rates by approximately 3.20 percent in FFY 2020 compared to FFY 2019, after accounting for inflation, a disproportionate share increase, and other adjustments required by law. The proposed rule includes an initial market basket update of 3.20 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 0.50 percent. 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 0.18 percent from FFY 2019.

Table 7

	Inpatient	**Outpatient**
Base Update		
Market Basket	3.20%	3.20%
Productivity	-0.50%	-0.50%
ACA	0.00%	0.00%
Coding	0.50%	
	3.20%	2.70%
Other Changes		
DSH	0.18%	0.00%
Other Changes	0.00%	0.00%
	0.18%	0.00%
	3.38%	2.70%

Applying the inpatient assumptions about market basket, and productivity, staff estimates a 2.70 percent Medicare outpatient update effective January 2020. This estimate is pending any adjustments that may be made when the final update to the federal Medicare outpatient rates is published.

Stakeholder Comments

HSCRC staff worked with the Payment Models Workgroup to review and provide input on the proposed RY 2020 update. Staff received and reviewed comments from the Maryland Hospital Association (MHA), CareFirst, Anne Arundel Medical Center, Johns Hopkins Health System, MedStar Health, and University of Maryland Medical System.

Comment: CareFirst agreed with the approach that staff took to formulate the RY 2020 update and believes that the proposed update will meet the financial targets of the TCOC Model and will keep healthcare affordable. CareFirst believes that in the future the 1 percent categorical adjustment for Johns Hopkins and University of Maryland Medical Center should reflect actual amounts not previously funded and should reflect incremental costs moving forward.

Response: Staff is committed to assessing special needs that occur at Academic Medical Centers that include both high intensity cases and new innovations and will continue to explore ways to fund these cases.

Comment: MHA and Johns Hopkins Health System agree with a Commissioner comment that the HSCRC should engage the Maryland Insurance Administration to ensure that generated savings are being passed along to the public.

Response: Staff have begun to explore external sources that can help validate these concerns. In addition, staff intends to reach out to the Maryland Insurance Administration to discuss this matter.

Comment: MHA request that the proposed update be increased by 0.33 percent. Anne Arundel Medical Center, MedStar Health, and University of Maryland Medical System also submitted letters supporting this request.

Response: Staff believes that the proposed update is fair and reasonable and does not agree with the recommendation to increase the update factor. The Model requirements are evaluated on an annual basis. As such, staff formulates the update factor to ensure that performance requirements are met each year. The actual national Medicare total cost of care growth for CY 2018, which staff used to calculate calendar guardrail, was 3.50 percent. This revised figure is 0.22 percentage points lower than the figure used in the draft update proposal. As a result, the estimated savings for the CY 2019 shown in Table 5a have decreased from the draft proposal. In addition, hospital profits have been favorable. Median regulated profits over the course of the model have been in excess of 10 percent and median total profits have been in excess of 3 percent. The profits have deteriorated slightly in RY 2019 - Fiscal year to date through

March 2019 show the median regulated operating profit at 6.95 percent, while total operating profits are 1.73 percent.

Comment: University of Maryland Medical System and MedStar have concerns that PAU savings disproportionately impacts community hospitals and that the new methodology is flawed due the treatment of all 'potentially' avoidable utilization as avoidable.

Response: HSCRC staff agrees with UMMS that not all Potentially Avoidable Utilization is avoidable, which is why the PAU savings adjustment only represents a small portion of the statewide PAU revenue. PAU, as measured by readmissions and PQIs, currently measures $1.8 billion dollars annually. The 0.30 percent PAU savings adjustment is equivalent to about $50.5 million dollars, or 2.80 percent of the total PAU revenue. HSCRC recognizes that the current evaluation of hospital-specific PAU has some challenges, and is working with stakeholders to evaluate PAU measurement and ensure that hospital efforts to reduce PAU are reflected in PAU scores. These changes include adding pediatric measures and moving to a per capita measurement-based approach that will should better reflect how a hospital is working with their community to reduce PAU.

Recommendations

Based on the currently available data and the staff's analyses to date, the HSCRC staff provides the following final recommendations for the RY 2020 update factors.

a) Provide an overall increase of 3.59 percent for revenue (inclusive of an uncompensated care increase and deficit assessment reduction), resulting in a 3.28 percent per capita revenue increase for hospitals under Global Budgets, as shown in Table 2.
    i) Allocate 0.19 percent of the total inflation allowance to high cost outpatient oncology and infusion drugs, providing a 10 percent increase based on the amount each hospital reported for estimated cost and utilization for the top 80 percent of these drugs for RY 2018.
    ii) Provide a conditional additional allowance to the two major Academic Medical Centers of one percent for growth in high cost inpatient procedures and intensity for RY 2020.
    iii) Prospectively reduce Global Budgets by 0.30 percent statewide for Potentially Avoidable Utilization.
b) Provide an overall increase of 2.46 percent to the rates of hospitals not under Global Budgets (freestanding psychiatric hospitals and Mt. Washington Pediatric Hospital).

Appendix A. Potentially Avoidable Utilization (PAU) Savings Methodology

This year the PAU Savings reduction has been incorporated into the Update Factor recommendation since the statewide reduction is now being linked to the update factor inflation and demographic adjustment. This appendix provides additional details on the RY 2020 PAU measurement methodology, as well as the future direction of PAU measurement.

RY2020 PAU Hospital-Specific Measurement

The PAU Savings Policy applies the statewide reduction (as specified in the body of Update Factor Recommendation) to each hospital's total permanent revenue. The statewide reduction is scaled for each hospital based on the amount of PAU revenue assigned to that hospital (e.g., hospitals with PAU revenue greater than the statewide average receive a higher revenue adjustment than the statewide reduction). For RY 2020, PAU revenue is defined as revenue associated with 30-day, all-cause readmissions[1] and ambulatory-care sensitive condition admissions (measured by AHRQ Prevention Quality Indicators (PQIs)).

Readmissions: In prior years, readmissions were assigned to the hospital that received the readmission (i.e., the hospital where the readmission occurred). In response to Commissioner and stakeholder feedback, staff has changed the methodology to assign readmissions to the sending or index hospital for the RY 2020 adjustment. To calculate the readmission revenue associated with the sending hospital, staff vetted with Performance Measurement Workgroup applying the average cost of an intra-hospital readmission (i.e., cost of readmissions that occurred to and from the same hospital) to the total number of sending readmissions assigned to each hospital. Applying this average cost avoids holding sending hospitals accountable for the cost structure at a receiving hospital.

PQIs: HSCRC will use AHRQ PQI version 2018 for Calendar Year 2018 performance.[2] As with previous PAU Savings policy, PQI revenue will exclude revenue flagged as both a PQI and a readmission. Revenue flagged as both PQI and readmission will be included in the readmissions revenue.

Protection: As detailed in the Final RY 2020 Update Factor Recommendation, staff recommends discontinuing the additional protection for hospitals with high socioeconomic burden. In prior years, the PAU savings reductions were capped at the state average if a hospital served a high proportion of disadvantaged populations.[3] 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. On the other hand, the Commission does not want to excuse poor quality of care or inadequate care coordination for patients in disadvantaged communities. Due to these issues, staff indicated a potential future phasing out of the protection in the RY 2019 PAU Savings Policy.

Staff believes ending the additional protection for incremental PAU adjustments ensures that these hospitals have the needed resources to serve their communities, while still incentivizing them to reduce

[1] 30-day, all-cause, all-payer, all-hospital readmissions for inpatient stays and observation stays greater than 23 hours, excluding planned admissions, same and next day transfers, oncology cases, and newborns.
[2] Starting in 2018, staff will begin to phase out the use of PQI02 perforated appendix. PQI02 data after October 2018 will NOT be included in determining performance and revenue adjustments due to AHRQ logic issues.
[3] 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.

their PAU percentage below the statewide level to receive a lower reduction. Because PAU savings adjustments are built into permanent revenue, hospitals that received the protection continue to benefit from prior years of protection. With the policy shift to calculating only incremental PAU savings adjustments, this historically protected revenue will remain in permanent revenue. Only new PAU Savings adjustments will not have the protection.

RY2020 Hospital-specific results: Draft and final PAU revenue adjustments by hospital will be posted on the HSCRC website (https://hscrc.maryland.gov/Pages/PAU-Savings.aspx) as they are available.

PAU refinement and expansion

Based on Commissioner and stakeholder feedback, staff and stakeholders explored approaches to modernize the PAU measurement in order to increase measure comprehensiveness, resolve methodological concerns with PQI measures, and align with the Total Cost of Care Model. Staff discussed potential expansion and refinement of PAU with a PAU subgroup in the summer and fall of 2018, as well as with the Performance Measurement Workgroup throughout 2018.

Low Value Care. The subgroup proposed and considered a total of thirty-six potential low value care measures, and based on stakeholder input and data availability, the HSCRC calculated three measures for consideration. Ultimately, subgroup members felt the tested measures were too narrow and represented too small dollar values to be worth implementation. Many subgroup members felt that broader measures of utilization represented greater opportunities for making meaningful change and impact on total cost of care. However, they also felt that the PAU Savings policy may not be the most appropriate incentive mechanism, given that many of these measures are not clearly specified, or may occur outside the hospital. Given this feedback, HSCRC is planning on monitoring broad utilization through Medicare data to identify outliers and consider taking action on a case-by-case basis.

New measures. In response to strong consumer and Medicaid support, staff plans on recommending the addition of avoidable pediatric admissions to the PAU measurement for RY 2021.[4]

Per Capita. For RY2021, HSCRC staff intends to recommend a shift to a per capita PAU performance evaluation for PQIs. This approach better aligns with the original population-based intention of PQIs, better recognizes hospital accountability in communities, and enables inclusion of avoidable pediatric admissions. Working with the PAU subgroup and Performance Measurement Work Group, HSCRC plans to propose a methodology for attributing avoidable admissions to hospitals that incorporates the Medicare Performance Adjustment (MPA) attribution process for applicable Medicare beneficiaries, followed by a geographic attribution approach for other patients. Currently, the staff and stakeholders have not made a decision on whether or how to measure readmissions under a per capita model, but starting in 2019 PQI admissions will be flagged prior to readmissions (i.e., if both a PQI and a readmission, then will count as PQI). HSCRC is working with CRISP to produce per-capita performance reports for CY 2019 on PQIs and PDIs as data becomes available. With the incorporation of the MPA attribution in per-capita PQI calculation[5], HSCRC anticipates that CRISP reports for per-capita PQI performance results will be available approximately three to four months following the encounter. A detailed memo on the overall

[4] AHRQ pediatric quality indicators (PDIs) and PQI 09 Low Birthweight Newborns
[5] MPA relies on Medicare billing data that has longer data lags compared to hospital case-mix data. In addition, the first reports of the year may have an additional delay due to loading of new algorithm information.

PQI per capita attribution and readmission measurement will be available as details are vetted by stakeholders and moved into production for CY 2019 performance measurement.

Appendix B. Comment Letters

The Maryland Hospital Administration
CareFirst
Anne Arundel Medical Center
MedStar Health
Johns Hopkins Health System
University of Maryland Medical System

Maryland
Hospital Association

May 13, 2019

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 62 member hospitals and health systems, we appreciate the opportunity to comment on the HSCRC's rate year 2020 annual payment update. Hospitals acknowledge the efforts of commission staff and the careful consideration of the payment update by the commissioners.

MHA agrees with your conclusion that the HSCRC should engage the Maryland Insurance Administration. Our model savings have surpassed all expectations. We all need the chance to better understand how these savings are shared with the public.

Hospitals support the non-global budget revenue update. Commission staff have taken a reasonable approach in recommending market basket inflation minus 0.5% for productivity improvement. We support this recommendation.

Increase the global budget update by 0.33 percent. Hospitals recognize that the proposed rate year 2020 annual payment update would be the largest one in several years. However, MHA respectfully requests that the HSCRC raise this year's proposed update by 0.33 percent because, as we will explain on pages 2 to 4:

- A modest increase allows transformation to be expanded under the Total Cost of Care Model
- Maryland's hospital care is affordable, even after taking into account our proposed increase
- The proposed Medicare limits are extremely conservative, yet our proposal is within those limits
- Actual hospital spending per capita is more favorable than had been projected.

We look forward to discussing the update at the May 30 meeting of the Payment Models Work Group and at the HSCRC's monthly public meeting on June 12, as we continue to work together on behalf of the people and communities we serve.

Sincerely,

Michael B. Robbins, Senior Vice President

Brett McCone, Senior Vice President

cc: Joseph Antos, Ph.D., Vice Chairman
Victoria W. Bayless
John M. Colmers
James Elliott, M.D.
Adam Kane
Jack C. Keane
Katie Wunderlich, Executive Director
Jerry Schmith, Principal Deputy Director

Enclosure

Rationale for Additional 0.33 Percent Global Budget Increase

A modest increase allows transformation to be expanded under the Total Cost of Care Model

Maryland's performance through calendar year 2018 against both our Medicare and all-payer requirements creates ample room for the commission to add funding to expand upon the transformational activities achieved to date. Our $273 million of Medicare total cost of care (TCOC) savings in 2018 and $1.4 billion of all-payer per capita hospital savings over the term of the prior model demonstrate that care transformation is working.

Over the next five years, the Centers for Medicare and Medicaid Services (CMS) will evaluate Maryland's model, relative to national performance, not just on dollars saved but also with respect to care transformation. *A modest increase now will allow hospitals to further invest in care transformation*, building on the strong performance to date.

Maryland's hospitals are committed to ensure Maryland is successful under the model for the long run. We appreciate the need to balance this concern with providing revenues that are sustainable. As reflected in the chart below, in two out of the last three years, the final inflation factor used in the annual payment update was below actual inflation. Compounded, the inflation used over the three-year period fell short of actual inflation by 0.3 percent.

Rate Year	Inflation at Time of Update	Inflation Used in Update	Actual Inflation	Difference: Inflation in Update vs. Actual Inflation
2017	2.49%	1.92%	2.29%	(0.37%)
2018	2.66%	2.66%	2.39%	0.27%
2019	2.57%	2.32%	2.50%	(0.18%)
Compounded total	**7.92%**	**7.05%**	**7.35%**	**(0.30%)** compounded difference

Commission staff are correct that the Global Insights inflation figure has been higher at the time of the update than it has been in subsequent releases. However, the final approved inflation factor has been lower than the projection. Over a much longer historical period – 2000 through 2019 – actual inflation is equal to inflation at the time of the projection.

Maryland's hospitals believe that a modest increase is needed to boost transformation efforts as hospitals have funded inflation beyond the amount in the annual payment update. In rate year 2019, the commission reduced staff's recommendation by an additional 0.25 percent. At that time, commissioners indicated a willingness to revisit this decision should more favorable Medicare TCOC savings be achieved. We understand that the commission could not revisit this issue during fiscal year 2019 due to problems with CMS data. Those problems are now resolved.

Maryland's hospital care is affordable

All-payer per capita hospital spending in Maryland is affordable and will remain affordable with our modest request. Adding 0.33 percent still allows for savings relative to the most recent three-year average State Gross Domestic Product per capita. We would also note that we understand the contractual all-payer definition of affordability to be 3.58 percent, compounded since the 2013 base period.

Recent figures released by the Health Care Cost Institute (HCCI) reflect Maryland's commercially insured hospital spending per capita to be among the lowest in the nation. According to HCCI, **Maryland's inpatient and outpatient hospital spending per person are both the 2nd lowest in the nation**. (See Attachment 1.) When non-hospital spending is included, **Maryland is the 5th lowest**. (See Attachment 2.) At the same time, individual and family health plan premiums rose by 4.5% annually from calendar year 2013 to calendar year 2017.

We agree that the commission should return some savings to payers under the Total Cost of Care Model. Including the rate year 2020 proposal, hospitals will have returned more than $350 million in payer savings. We question the need to increase the potentially avoidable utilization (PAU) savings figure by an additional 0.3 percent given the strength of cost containment performance to date and need to understand how additional model savings correlates with health plan premiums.

The proposed Medicare limit calculations are extremely conservative, yet our proposal is within those limits

We appreciate the important consideration of Maryland's Medicare TCOC performance as the commission determines the Rate Year 2020 Update. Even as we believe the staff's calculations are very conservative, *a modest 0.33 percent all-payer increase will still generate Medicare savings for calendar year 2019*.

More important, we anticipate that the commission will approve the proposed MPA Efficiency Component policy, as explicitly allowed under the model contract. The MPA Efficiency Component is a valuable tool that the commission can use to directly adjust Medicare payments, ensuring that Maryland complies with the Total Cost of Care Model savings requirement. Commission staff presented a draft recommendation at the March public meeting and we would support final approval of that policy proposal.

Even without the MPA Efficiency Component, staff project Medicare TCOC growth at 3.72 percent, converted to a 3.35 percent all-payer revenue limit. The following conservative estimates are included in these figures:

- 3.72 percent national Medicare TCOC growth is calendar year 2018 actual. Other CMS sources suggest the future national growth rate could be **as high as 4.3 percent**.
- Staff used the calendar year 2018 actual Medicare growth rate but did not use the actual difference statistic or actual non-hospital growth factor. The actual difference statistic in

calendar year 2018 was 2.26 percent. The excess non-hospital growth statistic in calendar year 2018 was 0.66 percent, the most favorable performance in several years. Applying these figures, **the all payer revenue growth limit to produce savings would be 5.70 percent**. (See Attachment 3.)

- The actual difference statistic of 0.83 percent is more than 0.50 percentage points below the five-year average of 1.39 percent. Using the five-year average for both figures, the all-payer growth limit to produce savings would be 4.69 percent. At 3.66 percent, the all-payer growth limit is understated by at least 1 to 2 percentage points. (See Attachment 3.)
- In the "Monitoring Maryland Performance" data presented by staff at the May public meeting, for the first three months of calendar year 2019, all-payer per capita spending grew 1.36 percent while Medicare spending declined by 3.68%. This is a difference statistic of **more than 5.00 percentage points.**

In summary, these three layers of conservatism combine to make the proposed update much lower than needed to satisfy the savings goals of the Total Cost of Care Model contract.

Finally, while it is not the intent of our recommendation, we would note that, under the terms of the model contract, Maryland can grow up to 1 percentage point above the national TCOC growth limit during calendar year 2019 because we outperformed the nation in calendar year 2018. Maryland's TCOC savings of $273 million has already exceed the calendar year 2020 target of $156 million. We do not anticipate that a modest increase would cause Maryland's TCOC to increase faster than the nation, but technically, Medicare TCOC could grow up to 1 percentage point above the nation in calendar year 2019.

Actual hospital spending per capita is more favorable than projected

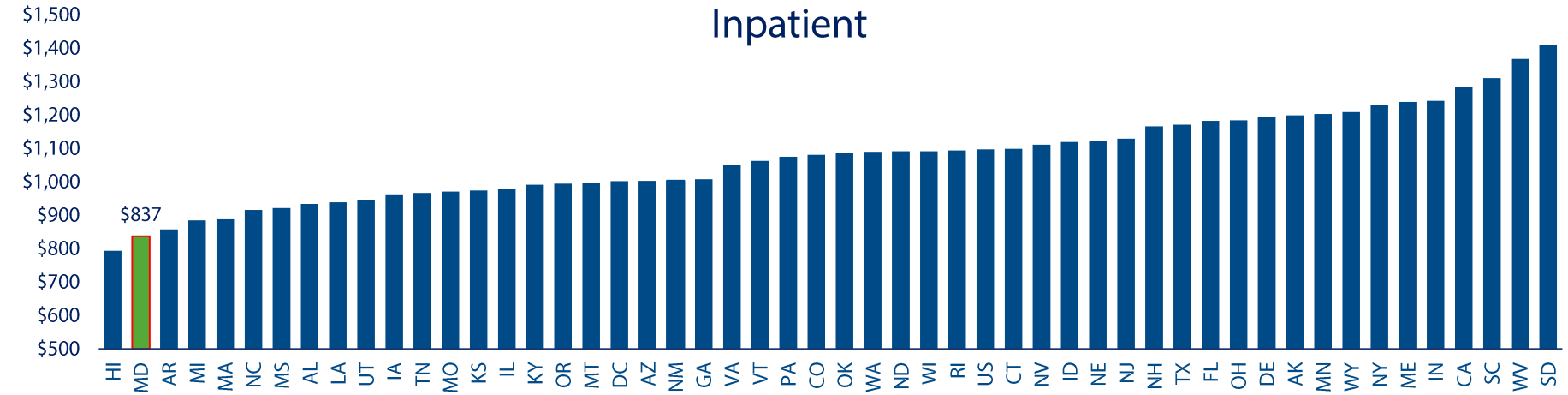
During rate year 2019, actual revenue provided to hospitals was more than $100 million less than what was projected when the rate year 2019 update was approved. (See Attachment 4.) Staff removed more than $60 million from global budgets for services that moved to an unregulated setting and granted $28 million less in oncology drug funding than anticipated.

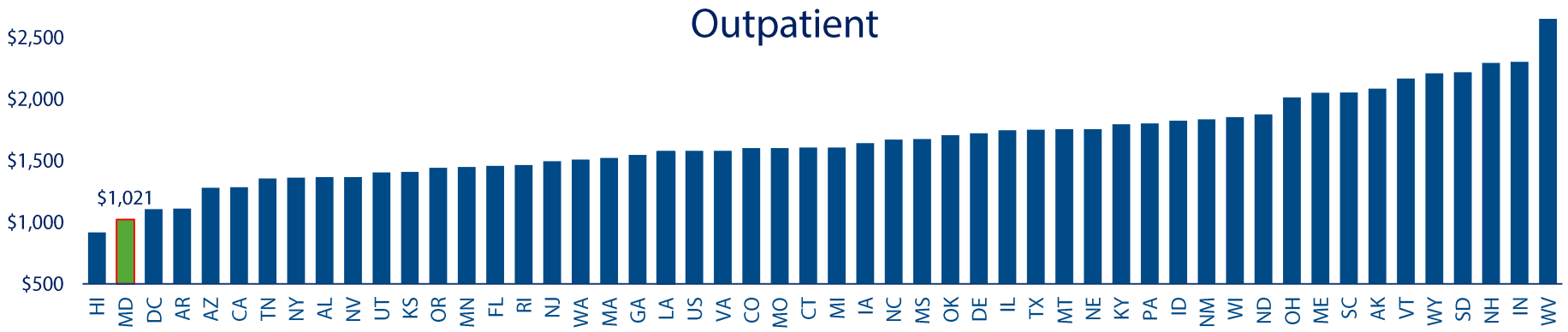
Hospitals understand that similar future savings are not guaranteed. However, on a cumulative basis from 2014 to 2019, actual hospital all-payer spending per capita has grown more than 2.5 percent below the projected, approved all-payer per capita growth rate. (See Attachment 5.) This amounts to an additional degree of conservatism in the all-payer level of spending.

Attachment 1

MARYLAND SECOND LOWEST IN THE U.S.

Hospital, Per Person Commercial Spending, by State, 2017





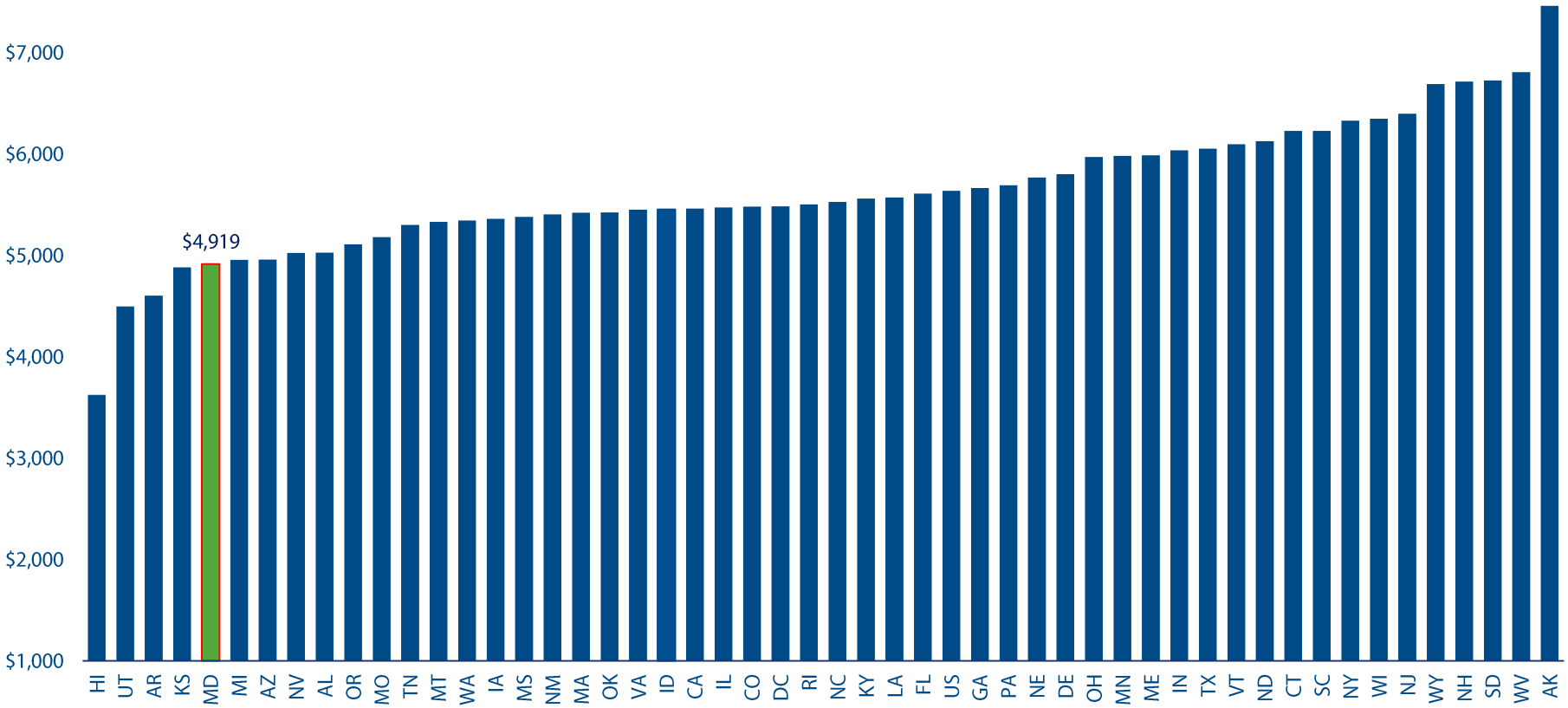
Source: Health Care Cost Institute, 2017 Health Care Cost and Utilization Report

Includes 40 million national claims from Aetna, Humana, Kaiser and United Healthcare

Attachment 2

MARYLAND AMONG THE LOWEST IN THE U.S.

Total Hospital and Non-hospital, Per Person Commercial Spending, by State, 2017



Health Care Cost Institute, 2017 Health Care Cost and Utilization Report

Includes 40 million national claims from Aetna, Humana, Kaiser and United Healthcare

PROPOSED MEDICARE GROWTH LIMITS ARE OVERLY CONSERVATIVE

	Staff Proposal	Calendar Year 2018 Actual	Five Year Average
Medicare Total Cost of Care Growth (CY 2018)	3.72%	3.72%	3.72%
Conversion to All-Payer			
Statistic between Medicare and All-Payer	0.83%	2.26%	1.39%
Excess growth for non-hospital cost relative to nation	-1.18%	-0.66%	-0.76%
Net difference statistic related to Total Cost of Care	-0.35%	1.60%	0.63%
Conversion to All-Payer growth per resident	3.35%	5.38%	4.37%
Conversion to total All-Payer revenue growth	3.66%	5.70%	4.69%
CY 2019 impact from staff recommendation	3.28%	3.28%	3.28%
Projected savings	**0.38%**	**2.42%**	**1.41%**

Source: MHA analysis of data provided by HSCRC staff

Attachment 4

RATE YEAR 2019 ACTUAL REVENUE IS $100M LESS THAN PROJECTED

Original GBR Approved Revenue, Rate Year 2018	$	17,183,983,214	
Original GBR Rate Year 2019 Projection from Update Recommendation		17,529,893,859	A
Adjusted for Full Year Update (1.83% - 2.01%)		17,498,961,785	A1
Newly Regulated Services in RY2019		75,141,722	B
Original Rate Year 2019 Projection, Revised for Full Update		17,574,103,507	C = A1 + B
Current GBR Rate Year 2019 Final Projection		17,466,092,860	D
Projection Variance	**$**	**(108,010,647)**	E = D - C

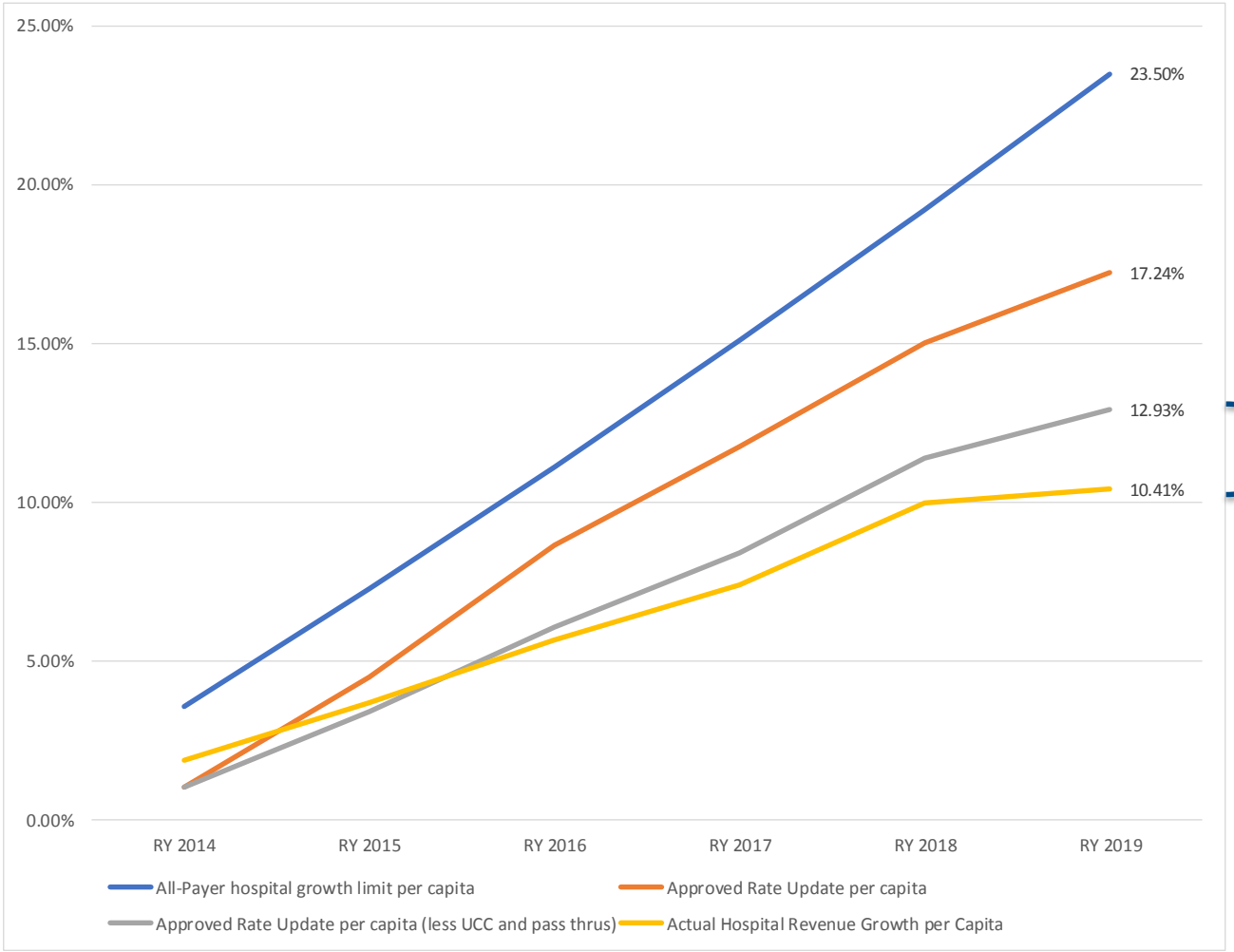
Projection Differences:			
Calendar Year 2018 Market Shift (net impact)	$	(3,185,304)	F
Rate Year 2018 Price Variance & Penalties		(9,584,657)	G
Quality Projection Discrepancy, Actual less Projected		(1,695,308)	H
Deregulation less Oncology Drugs		(48,595,712)	I
Spend Down		(7,813,834)	J
Oncology Drugs, Actual less Projected		(28,346,655)	M
Set Aside, Actual less Projected		(6,765,280)	N
Total	**$**	**(105,986,750)**	O

Unexplained	2,023,897	P = O - E
Unexplained %	0.01%	Q = P/C

Source: HSCRC Payment Models Work Group, April 30, 2019.

Attachment 5

ALL-PAYER HOSPITAL REVENUE PER CAPITA COMPOUNDED GROWTH, RATE YEARS 2014 - 2019



HSCRC approved annual update. In-state, hospital revenue per capita from HSCRC monthly data.

Maria Harris Tildon
Executive Vice President
Marketing, Communications & External Affairs

CareFirst BlueCross BlueShield
1501 S. Clinton Street, Suite 700
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Tel. 410-605-2591
Fax 410-505-2855

May 14, 2019

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 Factor for Rate Year (RY) 2020" which will be applied to hospital rates effective July 1, 2019.

First, we wish to congratulate the HSCRC, the staff, and Maryland hospitals on the State's overall performance during the All Payer Model Demonstration. Based on the preliminary data released by staff at the most recent Payment Models Work Group meeting, it appears that Maryland has met or surpassed all of the key requirements of the Phase I Agreement with CMMI. We also would like to thank the HSCRC staff for providing a balanced and open process for reviewing and discussing the key issues impacting the development of this year's Update to hospital rates in this, the first year of the Total Cost of Care (TCOC) Model.

We are in general agreement with the approach taken by the staff in formulating its RY 2020 Update Recommendation. We believe that the staff's methodology is well-crafted and appropriately applies a number of key assumptions, important adjustments, and reasonability checks to ensure compliance with the TCOC waiver model financial targets.

We believe the Recommended Update will allow the State to meet its two primary policy goals:
1) **Financial Targets**- ensuring that rates are consistent with the TCOC Savings requirements and Guard Rail limitations (as shown in Tables 5A and 5B of the staff report); and
2) **Affordability-** ensuring rates are in line with current estimates of Maryland Gross Domestic Product (GDP) growth (as show in Table 6 in the staff report). This latter result is extremely important to all Maryland residents, businesses, as well as the State Government.

Moreover, the recommended Update should maintain or augment the financial health of efficient Maryland hospitals, which is much improved relative to the pre-demonstration time period, because it provides hospitals with full cost inflation plus other adjustments for factors that are largely beyond the control of hospital management. In addition, the Commission must continue to set rates that encourage hospitals to reduce the level of Potentially Avoidable Utilization (PAU) in the State. In this regard, the staff Recommendation appropriately eliminates inflationary and volume-related add-ons to PAU revenues through the PAU Savings Program (PSP). We believe these adjustments are appropriate because they provide a return on investment for the payer community towards the approximate $973 million in upfront Infrastructure Investments infused permanently into hospital GBRs over the period FY 2014 through FY 2018.

We also see the recommended Update as consistent with the agreement between the HSCRC and the Private Payer community which stipulated that "the savings from the change in the Public Payer Differential, effective July 1, 2019, would not be used to justify an increase to rates this or any future Rate Year." We sincerely appreciate the efforts of staff to craft an Update that honors this agreement now and in the future.

Finally, the staff is recommending providing a 1% "intensity" increase to Johns Hopkins Hospital and University of Maryland Medical Center to help fund "categorical" and experimental cancer treatments. We believe that there is evidence to suggest that these additional amounts could duplicate revenues already provided to the Academic Medical Centers in the Inflation Adjustment and through other adjustments included in the staff's Balanced Update Model. At a minimum this 1% figure should be recalibrated to reflect actual amounts not previously funded through previous categorical adjustments on the IHS Global Insight inflation index (which is used as the basis for the core hospital cost inflation adjustment by both the HSCRC and CMS each year). In future years, we would urge the Commission to direct staff to review this 1% factor and adjust it in a manner that would more accurately reflect the incremental costs associated with the new and experimental treatments these hospitals provide.

Thank you for this opportunity to provide our comments on the staff's Draft Update Recommendation. We look forward to discussing these observations with you and the Commission at the June public meeting of the HSCRC.

Sincerely,

Marla Harris Tildon

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

Anne Arundel Medical Center
2001 Medical Parkway
Annapolis, Md. 21401
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May 15, 2019

Jerry Schmith
Principle Deputy Director, Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, MD 21215

Dear Mr. Schmith:

On behalf of Anne Arundel Medical Center (AAMC), we respectfully ask the Commission to increase the Global Budget Revenue (GBR) update factor by 0.33% for fiscal year 2020, as recommended by the Maryland Hospital Association.

A minor increase to the Staff's proposed recommendation provides additional resources to create innovative partnerships that help meet the goals of the Total Cost of Care Model. This funding supports hospitals' care transformation and community benefit activities, such as addressing social determinants of health.

With more than $270 million in total cost of care savings to date, Maryland is well on its way to achieving the $300 million savings target. It is unnecessary to be overly conservative at this stage. Reinvesting funding into hospitals allows for continued improvements in care and decreases in total cost of care spending for Maryland residents.

Thank you again for the opportunity to provide comments. Please let us know if we can be of assistance to you.

Sincerely,

Maulik Joshi, DrPH
Executive Vice President of Integrated Care Delivery &
Chief Operating Officer

Bob Reilly
Chief Financial Officer

Cc: Victoria Bayless, President & Chief Executive Officer, AAMC
Nelson Sabatini, Chairman, HSCRC
Katie Wunderlich, Executive Director, HSCRC

MedStar Health

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May 15, 2019

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

Dear Chairman Sabatini:

On behalf of MedStar Health System and our Maryland Member Hospitals, I am writing to share a few additional comments on the Staff's Draft Recommendation for Rate Year 2020 beyond the Maryland Hospital Association's ("MHA") letter for the hospital industry.

We support MHA's request for an additional .33 percent to be added to the update factor. As noted in MedStar's previous update factor comment letters, we are concerned that community hospitals, including MedStar Hospitals, have seen updates well below inflation and accumulating to an amount greater than the overall statewide amount of .33 percent for prior years.

There are several reasons for this:

1. The Academic Medical Centers receive an additional 1.0 percent for new technology, which equates to a statewide average of .23 percent;
2. There continues to be set-asides for unknown adjustments that include rate increases for specific hospitals;
3. The drug carve-out for inflation only relates to oncology drugs; and
4. The additional PAU savings impacts community hospitals disproportionally when the methodology was changed to add Ambulatory Sensitive Conditions, which penalizes community hospitals that are treating patients with chronic conditions and providing little tertiary or specialized services.

Last year's update was reduced by .25 percent given the concerns of the Medicare total cost of care performance. As noted in the minutes, the commissioners expressed an openness to restoring the .25 percent reduction should performance improve as a result of hospital-specific global budget reductions or should Maryland's Medicare total cost of care performance become more favorable. Given the delay with the CMS data and the favorable performance, we believe now is the time to reinstate this reduction. These multiple years of 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 and the ability to serve our communities.

We additionally request that the HSCRC re-evaluate the policies above that disadvantage community hospitals.

We would like to thank the HSCRC staff for their responsiveness to addressing questions. We appreciate the opportunity to comment.

Sincerely,

Susan K. Nelson
Executive Vice President and Chief Financial Officer

cc: Joseph Antos, Ph.D., Vice Chairman
Adam Kane
Victoria W. Bayless
James Elliott, M.D.
Jack C. Keane
John M. Colmers
Katie Wunderlich, Executive Director
Jerry Schmith, Principal Deputy Director

Kevin W. Sowers, MSN, RN, FAAN

President
Johns Hopkins Health System

Executive Vice President
Johns Hopkins Medicine

May 15, 2019

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

Dear Chairman Sabatini:

On behalf of the Johns Hopkins Health System (JHHS), we appreciate the opportunity to comment on the HSCRC's Draft Recommendation for the Update Factor for Rate Year 2020. We applaud the efforts of Commission staff and the careful consideration of the payment update by the Commissioners.

JHHS supports a healthy Rate Year 2020 update factor that will help hospitals afford much needed investments in population health. We believe that this is an appropriate time to provide such an update factor given the state's current performance on the waiver test.

JHHS agrees with the Commission's conclusion that the HSCRC should engage the Maryland Insurance Administration to ensure that the savings being generated by the all-payor model is being passed along to the public.

Sincerely,

Kevin W. Sowers, MSN, RN, FAAN
President, Johns Hopkins Health System
Executive Vice President, Johns Hopkins Medicine

cc: Joseph Antos, Ph.D., Vice Chairman
Victoria W. Bayless
John M. Colmers
James Elliott, M.D.
Adam Kane
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Katie Wunderlich, Executive Director

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UNIVERSITY of MARYLAND MEDICAL SYSTEM

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Finance Shared Services

May 15, 2019

Katie Wunderlich
Executive Director
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, MD 21215

Dear Ms. Wunderlich:

On behalf of the University of Maryland Medical System (UMMS), representing 15 acute care hospitals and health care facilities, we are submitting comments in response to the Health Services Cost Review Commission's (HSCRC) Draft Recommendation for the Rate Year 2020 Annual Payment Update. We appreciate the time spent by Commission Staff in developing and vetting this proposal with the industry. UMMS agrees and supports the comments made in the Maryland Hospital Association's (MHA) letter submitted to Chairman Sabatini on May 13, 2019.

UMMS supports the HSCRC's proposal to provide hospitals with full inflation in the amount of 2.96% for RY 2020. We feel strongly, however, that an additional 0.33% increase in funding should be provided to hospitals as indicated in MHA's letter, to fund expansion of care transformation efforts and to help mitigate the FY19 inflation reduction of 0.25%. UMMS has identified a need to invest in additional care transformation efforts including enhancing medication reconciliation (both inside and outside the hospital), deploying more community health workers to provide in home support and expanding patient access to high risk clinics. In addition, UMMS is investing resources into digital solutions that can provide medical staff (both within and outside the hospital) with more enhanced risk stratification tools that focus resources towards the patients who would most benefit from additional interventions. An additional 0.33% would allow for making these and other investments.

Funding Inflation for New Outpatient Drugs

UMMS supports the set aside of the inflation amount to fund the rising costs of new and expensive drugs. We also agree with the premise of using a focused list of drugs that covers the most expensive pharmaceuticals on the market in lieu of using total drug cost as an allocation methodology. This change in allocation will ensure that hospitals shouldering the burden of the expense associated with these drugs will actually receive the funding to offset those costs. Additionally, we support providing a

higher inflation amount to these drugs that coincides with the actual inflation experienced in these drug categories. We do have concerns, however, with the methodology proposed for the FY 2020 update, which is an interim step in moving towards a standardized list that will be used across hospitals. Staff are proposing to use each hospital's CDS-A top 80% drug lists as the basis for which the HSCRC will provide drug inflation for FY 2020. These lists vary greatly by facility and there is concern that these lists were not developed using the same process at each facility. There are many high cost drugs at some of the larger hospitals that do not make the top 80% list but carry significant inflation increases from year to year. These drugs may not be provided the incremental inflation at larger facilities, while smaller hospitals may receive inflation on those same drugs. We urge the commission staff to develop an alternative methodology that is consistent among hospitals so that funding is fair and appropriate.

PAU Savings Adjustment

As mentioned in the MHA letter, UMMS also questions the need for an additional 0.30% increase in the PAU savings amount. As we argue the need for this punitive policy, we will point out that the new methodology is flawed as it treats all "Potentially" Avoidable Utilization as avoidable. The PAU reduction has now been converted to a formulaic removal of inflation for PAU revenue that is part of each hospital's Global Budget Revenue (GBR). It has been acknowledged by both commission staff and the hospital industry on multiple occasions that not all PAU is avoidable. Applying the PAU adjustment, or inflation reduction, to all revenue associated with PQIs and Inter-Hospital Readmissions essentially considers all PQIs and Readmissions as avoidable, ignoring the "Potential" in the definition of "Potentially Avoidable Utilization". If the HSCRC continues to apply the PAU adjustment as an inflation reduction, then it should be applied only to a portion of the PAU revenue that is truly avoidable. The PAU savings has been presented as a necessary incentive for hospitals to continue to reduce avoidable utilization. We would argue that many policies are in place to incent hospitals to reduce avoidable utilization. The HSCRC already has policies that reward and penalize hospitals for MHACs and Readmissions. Furthermore, hospitals do not receive any population adjustments for PAU cases, nor do they receive revenue associated with market shifts for PAU volume. Under the GBR model, hospitals also retain 100% of revenue associated with PAU reductions (provided they are within the GBR price corridors). These policies, combined with the TCOC growth limit provide more than enough incentive for hospitals to reduce Potentially Avoidable Utilization and further punitive policies are not needed.

Categorical Cases

UMMS applauds and appreciates the commission staff for recognizing and funding the ongoing cost increases that University of Maryland Medical Center (UMMC) and Johns Hopkins Hospital (JHH) continue to experience annually for categorical cases and other expensive therapies. Each year, new treatments and therapies emerge that have the potential to significantly improve survivability and the

quality of life for people with diseases that were previously considered untreatable. As these new innovative treatments become available, they are administered and evaluated by physicians in the AMC setting. AMCs offer the infrastructure and clinical expertise to administer these new treatments, collect outcomes data, and ultimately bring these new treatments to the wider market. The continued funding for emerging technologies and high cost cases is critical to cover the direct cost of volumes and the special demands on resources associated with providing these innovative services. These highly specialized cases have previously been funded through alternative methodologies under charge per case due to their unique high cost because traditional payment methodologies do not provide adequate funding. The AMC hospitals are actively evaluating alternative payment mechanisms to fund the cost associated with these cases. We look forward to working with commission staff to implement a new funding methodology for these cases in FY 2021 that will serve as a replacement to the current 1.0% funding.

We look forward to the final staff recommendation at the June 2018 Commission meeting. If you have any questions, please do not hesitate to contact me.

Sincerely,

Alicia Cunningham

Senior Vice President, Corporate Finance & Revenue Advisory Services

Cc: Chairman Sabatini
HSCRC Commissioners
John Ashworth, UMMS Interim CEO
S. Michelle Lee, UMMS CFO

Final Staff Recommendation
Changes to Relative Value Units for Emergency Services
Effective July 1, 2019

June 12, 2019

Health Services Cost Review Commission

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Baltimore, Maryland 21215
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This document contains the final staff recommendations for changes to Relative Value Units for Emergency Services effective July 1, 2019, ready for Commission discussion and vote.

Definitions

Current Procedural Terminology (CPT) codes--The medical service and procedure codes used to bill for hospital outpatient services. The primary CPT codes used for billing Emergency Department services are 99281 through 99285. These codes provide for five progressive levels of care for billing of Emergency Department services, based on the use of hospitals' resources in diagnosis and treatment of these patients.

EMTALA--Emergency Medical Treatment & Labor Act (EMTALA), which requires medical screening to be provided to every person who seeks emergency care.

Relative Value Units (RVUs)--A standard unit of measure. A value or weight assigned to a specific service based on relative resources used for that service relative to other services.

CMS—Centers for Medicare & Medicaid Services

Overview

This report recommends updating Emergency Department RVUs using national cost-based weights, and also tying RVUs to specific CPT codes and code definitions. The report also recommends monitoring of changes in payer denials of Emergency Department services to ensure that hospitals' concerns regarding the potential for additional denials as well as payers' concerns are addressed.

Introduction and Background

HSCRC staff has been undertaking a multi-year process: 1) to update its Relative Value Unit (RVU) systems used for rate setting; to utilize national RVUs to facilitate ease of ongoing updates; and 3) to ensure the objectivity of the RVU scales. Over the past few years, staff has replaced all of the radiology and radiation therapy RVU scales with national CMS RVU scales. The radiology and radiation therapy RVU scales were out of date and included CPT codes for many services with no assigned RVUs. As a result, RVUs for these services by necessity had to be assigned based on an individual hospital's RVU determinations. Under the national scales, RVUs for new CPT codes for new services will be provided automatically, and as a result, the maintenance and the necessity to update RVUs by HSCRC staff will be minimized. In addition, the new national RVU scales will be in line with national coding guidelines and CPT code definitions.

During 2019, HSCRC staff initiated a change in RVUs and guidelines for Emergency Room services, for the following reasons:

- Last year, CMS initiated NCCI edits for Maryland. While these edits were delayed until July 1, 2019 based on a request by HSCRC, they will not be delayed beyond this point. Hospitals raised concerns about application of NCCI edits resulting in Medicare denials

for the separate billing of the medical screening for EMTALA. HSCRC addressed this concern as part of the proposed changes, by recognizing that the medical screening visit for EMTALA could be combined with the post EMTALA treatment billing.

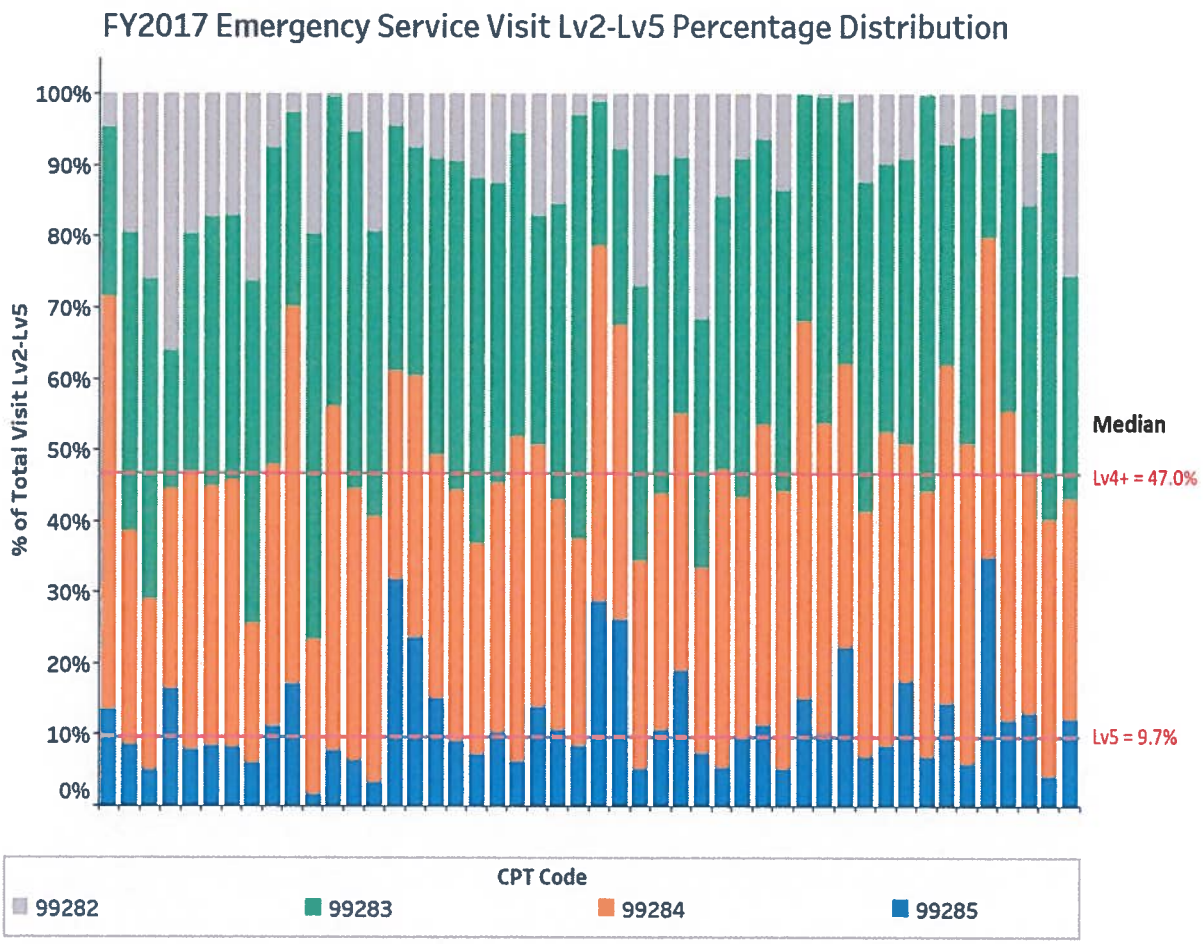
- HSCRC received complaints that some Maryland hospitals may be over-coding their emergency room charges, thereby billing excessive levels of care (levels four and five) relative to expected levels of billing. Furthermore, some hospitals were billing more than one RVU for the medical screening exam required by EMTALA.

Analysis

HSCRC staff analyzed Emergency Department RVU data to evaluate the concerns expressed regarding variations in coding by hospitals and to link RVUs to national CPT code definitions. Similar to national trends, some Maryland hospitals have increased the RVUs they are reporting for each visit by billing a higher level of care. Some increases in levels of care are expected as more services that are less intense are shifted to community settings such as urgent care and primary care rather than hospital emergency departments, and as emergency room visits are avoided through care management. Staff determined the following from its evaluation:

- On a state-wide basis, hospitals' average level of billing by CPT code levels one through five (lowest intensity to highest intensity) was in line with national averages. However, there were significant discrepancies in levels four and five services being billed by some Maryland hospitals. HSCRC staff did not conduct a clinical evaluation to determine whether the variation in levels of billing was clinically driven. Staff also notes that any increases in billing levels since the inception of fixed global revenues would not increase hospital revenues, and would simply result in lower rates per unit of service.
- Some Maryland hospitals were billing more than one RVU for the medical screening for EMTALA and, in addition, there was inconsistency in applying the HSCRC prescribed RVU scale.

The chart below illustrates the current coding variation in levels. Levels 4 and 5 are the orange and blue portion of the bars in the chart. Each bar represents the percent of cases coded in each level by each hospital. The horizontal red line indicates the median percentage of cases with level five or level four and five coding. As shown, there are some outliers, with several hospitals well above the median of 47 percent for level four and five coding and above the 9.7 percent median for level five coding.



Since the national guidance for billing levels by CPT code is based on resource consumption rather than time, HSCRC staff set out to link RVUs to CPT codes and standardize RVUs based on national cost weights, rather than the time standards that previously were used, which were not linked with CPT code definitions. HSCRC staff initiated a technical work group in January 2019, discussing NCCI edits and planned changes in Emergency Department RVUs. The workgroup's membership included representatives of the Maryland Hospital Association, Maryland hospitals, Maryland payer representatives, and consultants.

At the February 2019 meeting, HSCRC staff provided a proposed RVU scale based on national cost weights, and expressed its intent to move away from the current time guidelines and rather to follow national definitions, which are based on resource use. HSCRC staff worked through the subsequent months with the workgroup to provide changes to the HSCRC Manual that prescribe RVUs for each hospital department (see Attachment 1). Staff appreciates the contributions of the work group and the concerns raised regarding the potential for increased denials.

Comments and Responses

The proposed changes were sent to all hospitals for comment. The comment period closed on May 30, 2019 with four comments. Hospitals were required to calculate a conversion factor to assure no change in hospital revenue as a result of this RVU conversion. Hospitals will begin using these revised RVUs effective July 1, 2019.

Maryland Hospital Association and Hospital Comments

HSCRC received comment letters from the Maryland Hospital Association (MHA), University of Maryland Medical System, Johns Hopkins Health System, Adventist Health System, and Calvert Health Medical Center.

Rationale for Change - MHA acknowledges that the HSCRC staff has been undergoing a process to standardize Maryland RVUs used for rate setting using national RVU scales that are available, but questions whether the change in Emergency Room RVUs is a priority. University of Maryland Medical System supports the change, but has concerns with some of the details and concerns about increased denials.

Hospitals are Concerned about Additional Denials - MHA acknowledges that the current RVU system does not explicitly tie to the CPT codes that are used to bill. While the new RVUs do tie to CPT codes, and the conversion is being done in a revenue neutral manner, the HSCRC does not have specific guidelines that determine which CPT code to use. With the revamping of RVUs, hospitals are concerned that there will be more payer denials. MHA would like the HSCRC to study the change in the RVUs and the underlying definitions for another year, delaying implementation until rate year 2021. Johns Hopkins Health System, University of Maryland Medical System, and Calvert Health Medical Center also commented that they are concerned about a potential increase in denials. In addition, MHA and the hospitals indicate that by moving away from a system that was based on clinical care time to a more general definition, there will be more disputes with payers. This is of concern, since hospitals can no longer receive additional revenues under the global revenue system through RVU increases.

Hospitals Commented on the Clarity of the Definitions and Information to Support the New RVU Scale Contained in Appendix D - Johns Hopkins Health System, University of Maryland Medical System, Adventist Behavioral Health, and Calvert Health Medical Center commented on the clarity of information contained in Appendix D of the Manual, which contains the new RVUs. Specifically, they assert that there was a lack of clarity in regard to how the initial medical screening required for EMTALA should be billed along with the post screening care. Also, the guidance on Extended Care was unclear. There were specific suggestions provided to clarify the language. Several hospitals expressed concerns that there was a lack of collaboration in making changes to the language.

Other Comments

Several hospitals requested that HSCRC assign 0.5 RVUs for every hour of Extended Care Services for patients awaiting a transfer to another hospital, versus 1 RVU for each two hours, to avoid having to reprogram their charge systems.

HSCRC Staff Responses

Rationale for Change - While HSCRC staff acknowledges hospitals' concerns regarding moving away from time-based definitions, the current HSCRC RVUs do not directly link to CPT codes and staff cannot support the outliers in billing by code levels that are occurring under the current approach. In order to address these issues, staff has recommended standardizing RVUs under national CPT code definitions and cost weights, consistent with the strategy that staff is executing over time for all services.

Concerns Regarding Increased Denials – The services provided in Emergency Rooms experience the highest rate of denials, based on a lack of medical necessity. Denials are particularly prevalent among Medicaid MCOs, where beneficiaries may use an emergency room for services that could easily be treated in a primary care or urgent care practices, because they do not have a readily available alternative source of care, a primary care relationship, or a historic pattern of seeking primary care in community settings rather than emergency rooms.

Based on the redistribution of revenue, HSCRC staff does not anticipate increased denials. MCOs should pay for medical screening for EMTALA, even if service levels beyond the screening are denied based on medical necessity for use of an emergency room. HSCRC wants hospitals to be paid for the provision of necessary care. HSCRC staff will work with MHA, hospitals, and payers to monitor closely the denial levels for emergency services. If denials increase as a result of the conversion, HSCRC will bring this concern back to the Commission for further review and consideration.

HSCRC staff does not currently expect additional denials, because the distribution of charges does not materially change, except for the appropriate increase in the medical screening charge for EMTALA. HSCRC staff estimated the impact on state-wide charges by payer for each level of care, resulting from the RVU conversion. The all payer estimated changes are shown in Table 2 below:

Table 2

Current Revenue Distribution:

Actual Revenue (Millions of Dollars) and Percent of Revenue By Level							
	Outpatient					Inpatient	Total
	CPT 99211*	CPT 99212	CPT 99213	CPT 99214	CPT 99215	CPT 99215**	All CPTs
Revenue	$ 124,937	$ 23,850	$ 204,413	$ 463,694	$ 247,902	$ 291,255	$ 1,356,052
Percent	9%	2%	15%	34%	18%	21%	100%

*Includes medical screening for EMTALA

**Primarily CPT 99215

Estimated Revenue Distribution after Conversion:

Estimated Revenue (Millions of Dollars) and Percent of Revenue By Level After RVU Conversion							
	Outpatient					Inpatient	Total
	CPT 99211*	CPT 99212	CPT 99213	CPT 99214	CPT 99215	CPT 99215**	All CPTs
Revenue	$ 253,526	$ 26,223	$ 175,258	$ 363,293	$ 241,536	$ 296,217	$ 1,356,052
Percent	19%	2%	13%	27%	18%	22%	100%

See notes above.

Clarity Regarding Appendix D and Other Comments

All of the hospital commenters requested increased clarity in Appendix D regarding the combined total RVUs for each level of care, including the billing for medical screening for EMTALA. HSCRC staff has added an explanatory table and paragraph to address this concern. HSCRC staff has also made some other requested wording modifications to improve clarity.

HSCRC staff did not accept the suggestion that 0.5 RVUs per hour be used for Extended Care Services rather than 1 RVU for every two hours of Extended Care Services. HSCRC policy is not to use fractional RVUs. Introduction of fractional RVUs would result in data errors and considerable reprogramming.

HSCRC staff does not favor a delay in implementation. Implementation needs to occur at the beginning of a Rate Year due to the RVU conversion process. Staff is committed to monitoring denials with hospitals and payers. Hospitals should be paid for required medical screening for EMTALA and for necessary Emergency Department care. Hospitals that are outside of norms for charges for levels four and five should implement changes in coding protocols if the reported higher levels of care are not substantiated based on resource use.

RECOMMENDATION

The HSCRC staff recommends that the Commission approve revisions to the RVU Scale for Emergency Department services. The revisions are specific to Chart of Accounts and Appendix D of the Accounting and Budget Manual (Attachment 1). These revised RVUs are based on CMS national cost weights and were reviewed by a workgroup facilitated by the HSCRC staff.

The RVU scale was updated to reflect linkages of RVUs to the CPT codes to reflect; changes in clinical practices; and to link charging guidelines for Emergency Department services to national definitions, consistent with the HSCRC's plan to adopt national RVUs where possible. The Commission should adopt these new RVUs, effective July 1, 2019.

Staff is committed to monitoring denials with hospitals and payers to ensure that the concerns raised are addressed. Staff will report any changes in denial levels to the Commission for further action, if needed.

SECTION 200
CHART OF ACCOUNTS

6710 EMERGENCY SERVICES
6711 Emergency Room
6719 Other Emergency Services

Function:

Emergency Services provide emergency services to the ill and injured who require immediate medical or surgical care on an unscheduled basis. (See Appendix D for definition of services)

Description

This cost center contains the direct expenses incurred in providing services in the Emergency Department. Direct expenses included are: salaries and wages, employee benefits, professional fees (non-physician), non-medical supplies, purchased services, other direct expenses.

Standard Unit of Measure: Number of Relative Value Units

Relative Value Units as determined by the HSCRC. (See Appendix D of this manual)

Data Source

The number of Relative Value Units shall be the actual count maintained by Emergency Services.

Reporting Schedule

Schedule D – Line D19

REVISED APPENDIX D
STANDARD UNIT OF MEASURE REFERENCES
EMERGENCY SERVICES

Account Number	Cost Center Title	Cost Center Code
6710	Emergency Services	EMG

EMG

HSCRC abbreviation for Emergency Department

EMTALA

Emergency Medical Screening Examination mandated by the Emergency Medical Treatment & Labor Act (EMTALA) to be provided to every person who seeks emergency care.

Relative Value Units (RVUs)

A standard unit of measure. A unique value or weight assigned to a specific service, e.g., number of visits for a particular hospital unit.

The RVUs for this cost center are based on resource consumption. Each facility is expected to develop, retain, and maintain Internal Guidelines, which identify the resources consumed. These resources may include but are not limited to time, staff intervention, complexity, patient severity, etc. The facility's Internal Guidelines are to be used for the purpose of maintaining Service Level reporting consistency among patients receiving comparable or similar treatment/care/resource consumption; and for patients who receive greater (or lesser) treatment/care/resource consumption to be assigned an appropriately higher (or lesser) Service Level.

General Guidelines

1. There is a direct relationship between the amounts of EMG resources consumed by a patient and the Service Level assigned to the patient.
2. The facility will prepare, record, and maintain appropriate documentation to support and justify the Service Level assigned. If a service or task is not documented, then that service or task cannot be included in the determination of the Service Level assignment. Patients are not to be charged, nor RVUs reported for a service or task that is not documented. Physician services are not to be included in the determination of Service Levels.
3. The facility's Internal Guidelines may not be totally inclusive or explanatory. It is recognized that the circumstance of the visit and the Service Level selected will involve a degree of clinical judgment and patient acuity. It is recommended that each facility's Internal Guidelines include an analysis of resource use and the services provided by EMG staff. The format and content are at the facility's discretion.
4. Charges for EMG services are a by-product of all expenses and RVUs assigned to the EMG department. Ancillary services can be provided within the EMG area (e.g., laboratory, radiology, respiratory, etc.). If the cost of providing an ancillary service in the EMG is assigned to the ancillary center, regulated charges for that ancillary service must be included as a separate line item in the patient bill. However, if the cost associated with

an ancillary service is assigned to the EMG department (e.g., an EMG registered nurse or other EMG personnel providing respiratory care or specimen collection), then the cost associated with the service is part of the EMG determination of Service Level. It is recommended that this distinction be part of the facility's Internal Guidelines.

5. EMG patients will be assigned a Service Level based on total resources consumed, from the EMTALA Medical Screening Examination to final patient disposition.

6. In addition to EMG Service Level charge, the hospital will charge separately for drugs, supplies, and ancillary services (as noted in 4 above). Professional fees are not regulated by the HSCRC and, therefore, are not included in the hospital's charges. Professional fees would be a separate charge.

CPT Services Levels		**RVU**
99281	Level I/ EMTALA (Medical Screening Examination)	1
99282	Level II	1
99283	Level III	2
99284	Level IV	4
99285	Level V	7
99291	Level V	7

Each patient receives an EMTALA Medical Screening Examination and almost all patients receive subsequent treatment. Some payers prefer that the EMTALA screening be billed as a separate line item and post-EMTALA treatment as a separate line item. Other payers prefer that the EMTALA screening be bundled with post-EMTALA treatment as one line item. Therefore, applying the above RVU table, when combining EMTALA screening and post-EMTALA treatment, patients would be billed the following RVUs:

REVISED APPENDIX D
STANDARD UNIT OF MEASURE REFERENCES
EMERGENCY SERVICES

Total RVUs to be billed by CPT Services Levels			**RVU**
99281	Level I	(Includes EMTALA)	1
99282	Level II	(Includes EMTALA)	2
99283	Level III	(Includes EMTALA)	3
99284	Level IV	(Includes EMTALA)	5
99285	Level V	(Includes EMTALA)	8
99291	Level V	(Includes EMTALA)	8

ECS (Extended Care Services) - The RVUs assigned are based on clock time.

1 RVU per 2 hours for a period up to 48 hours (maximum of 24 RVUs).

Extended Care Service (ECS)

- This service is associated with outpatients who have received EMG services and are awaiting transfer/discharge to another facility. Some examples include: tertiary care facility, nursing home, inpatient psychiatric facility, etc. The services being provided to the patient during ECS may or may not be resource intensive.
- This is an add-on RVU to Level V only (e.g., ECS RVUs may be added to the Treatment Level V RVUs) and is for services provided AFTER EMG Treatment.
- If services provided during ECS are resource intensive, the Service Level may be increased.
- Extended Care Services are based on "clock time." For each full two hour period of clock time, one (1) RVU is assigned. Any partial hours are rounded down to the nearest full two hour period. For example, two hours and five minutes is reported as two hours = one RVU. Two hours and fifty-five minutes is reported as a two hour period = one RVU.
- To qualify for ECS reporting, the patient must be an outpatient and must be transferred to another facility. The transfer must be fully documented in the medical record.

REVISED APPENDIX D
STANDARD UNIT OF MEASURE REFERENCES
EMERGENCY SERVICES

- Below are four examples of the proper reporting of Extended Care Service:

1. A patient begins his EMG visit at noon. The resources utilized resulted in a service Level V being assigned. The patient is stabilized and is to be transferred to another facility. The time is now 12:55 pm. Due to conditions beyond the control of the transferring hospital, the transfer is delayed for four and one half (4.5) hours. The reporting of RVUs would be as follows: EMTALA 1 RVU plus Service Level V 7 RVUs, plus ECS for 4 hours = 2 RVUs (rounded down to four hours from the actual of four and one half hours), the total RVUs reported would be 10.
2. A patient begins his EMG visit at noon. The resources utilized resulted in a service Level III being assigned. The patient is stabilized and is to be transferred to another facility. The time is now 12:45 pm. The patient is immediately transferred to another facility. The reporting of RVUs would be as follows: EMTALA 1 RVU, plus Service Level III 2 RVUs. There are no ECS RVUs reported, because the Service Level was not Level V.
3. A patient begins his EMG visit at noon. The patient is stabilized and is to be transferred to another facility. The resources utilized resulted in a Service Level IV being assigned. The time is now 1:00 pm. Due to conditions beyond the control of the transferring hospital, the transfer is delayed for four and one half (4.5) hours. The reporting of RVUs would be as follows: EMTALA 1 RVU plus service Level IV 4 RVUs. There are no ECS RVUs reported, because the Service Level was not Level V.
4. A patient begins his EMG visit at noon. The patient is stabilized and is to be transferred to another facility. The resources utilized resulted in a service Level III being assigned. Due to conditions beyond the control of the transferring hospital, the transfer is delayed for nine (9.0) hours. Significant resources beyond typical ECS services were utilized during the first three hours of the delay causing the Service Level to be increased from

Level III to Level V. The remaining six (6) hours of the delay are now considered ECS. The reporting of RVUs would be a follows, EMTALA 1 RVU plus services Level V 7 RVUs, plus ECS for 6 hours 3 RVUs. The total RVUs reported would be 11 RVUs.

UNIVERSITY of MARYLAND
MEDICAL SYSTEM

May 28, 2019

Katie Wunderlich
Executive Director
Health Services Cost Review Commission
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katie.wunderlich@maryland.gov

Re: Draft Changes to the Relative Value Unit Scale on Emergency Department Services

Dear Ms. Wunderlich,

On behalf of the 14 hospitals of the University of Maryland Medical System, we appreciate the opportunity to submit comments on the Health Services Cost Review Commission's (HSCRC) *Draft Changes to the Relative Value Unit Scale on Emergency Department Services*. UMMS supports the staff's recommendation to change the RVU values assigned to the Emergency Department visit levels; however, we do have concerns with some of the language changes and have provided additional details below.

Appendix D language and examples

Our staff who attended the task force meetings have indicated that this version of Appendix D does not reflect the results of the agreed upon changes made during the task force meetings. We recommend that the agreed upon version be submitted for review and comment by all Maryland hospitals.

Appendix D Level Visit grid is unclear

The updated Appendix D has RVU values assigned to different CPT codes that are not clearly representative of decisions made during the task force meetings. For example, the agreed upon RVU value for a Level II Visit is showing as "1" RVU in the grid. However, the actual RVU value that would be expected to be billed for a Level II visit totals "2" RVUs. The summary provided is unclear for those that attended and would be very difficult for someone to interpret had they not attended the meetings. We recommended updating the grid to clearly show the agreed upon RVU values (Level 1 = 1, Level II = 2, Level III = 3, Level IV = 5, Level V = 8).

In your draft, the clinical care time ranges have been removed from the Level Visit descriptions. Our understanding is that the majority of hospitals expressed apprehension that there was not enough time allotted for each hospital to re-evaluate their internal reporting tools (including rebuild in the EHR as well as clinical staff education and training). As such, we are very

concerned that the removal of this "clinical care time range" will cause more disparity between each hospitals' approach to capturing level visits and could ultimately result in inconsistent reporting of RVUs by hospital. We recommend that the current Appendix D clinical care time ranges be included next to the CPT description for Levels I through V.

RVU value for Extended Care Services (ECS)
Our understanding is the most task force attendees expressed concern with the requirement to charge ECS in two hour increments. The changes that would be needed to reprogram system logic and the charge master would outweigh the benefits. We recommend that the language be changed to state the following:

> *"ECS (Extended Care Services) - The RVUs assigned are based on clock time. .5 RVUs per hour up to 48 hours."*

Increased denials
The new structure of relative value units and the expected rate increase due to the conversion will shift revenue from MSE to services beyond MSE. This will inadvertently increase EMTALA denials for hospitals. In addition, by moving away from clinical care time (which can be tracked and supported) to the more general definition of resources (which is subject to interpretation), this will lend itself to time consuming and expensive debates between hospitals and payers. Our understanding is that the timing of this conversion did not allow for hospitals to re-evaluate their internal tools, so regardless of the RVU values assigned to the level visits, the "leveling" trends will remain consistent with prior years.

On behalf of the UMMS hospitals, we appreciate your consideration of our comments and hope we have the opportunity to continue working through the details of these recommendations.

Sincerely,

Alicia Cunningham

Alicia J. Cunningham
SVP Corporate Finance and Revenue Advisory Services

Cc: Michelle Lee, SVP & UMMS CFO
Kelly Henneman, Sr. Director – Revenue Integrity
Mike Wood, Sr. Director – Rate Setting

REVISED APPENDIX D
STANDARD UNIT OF MEASURE REFERENCES
EMERGENCY SERVICES

Account Number	Cost Center Title	Cost Center Code
6710	Emergency Services	EMG

EMG

HSCRC abbreviation for Emergency Department

Relative Value Units (RVUs)

A standard unit of measure. A unique value or weight assigned to a specific service, e.g., number of visits for a particular hospital unit.

The RVUs for this cost center are based on resource consumption. Each facility is expected to develop, retain, and maintain Internal Guidelines, which identify the resources consumed. These resources may include but are not limited to time, staff intervention, complexity, patient severity, etc. The facility's Internal Guidelines are to be used for the purpose of maintaining Service Level reporting consistency among patients receiving comparable or similar treatment/care/resource consumption; and that patients receiving greater (or lesser) treatment/care/resource consumption would be assigned an appropriately higher (or lesser) Service Level.

General Guidelines

1. There is a direct relationship between the amounts of EMG resources consumed by a patient and the Service Level assigned to the patient.
2. The facility will prepare, record, and maintain appropriate documentation to support and justify the EMG Service Level assigned. If a service or task is not documented or easily inferred; then that service or task cannot be included in the determination of the Service Level assignment. Patients are not to be charged, nor RVUs reported for a service or task that is not documented.
3. The facility's Internal Guidelines may not be totally inclusive or explanatory. It is recognized that the circumstance of the visit and the EMG Service Level selected will involve a degree of clinical judgment and patient acuity. It is recommended that each facility's Internal Guidelines include an analysis of resource use and the services provided by EMG staff. The format and content are at the facility's discretion.
4. Charges for EMG services are a by-product of all expenses and RVUs assigned to the EMG department. Ancillary services can be provided within the EMG area (e.g., laboratory, radiology, respiratory, etc.). If the cost of providing an ancillary service in the EMG is assigned to the ancillary center, regulated charges for that ancillary service must be included in the patient bill. However, if the cost associated with an ancillary service is assigned to the EMG department (e.g., an EMG registered nurse or other EMG personnel providing respiratory care or specimen collection), then the cost associated with the service is part of the EMG determination of Service Level. It is recommended that this distinction be part of the facility's Internal Guidelines.
5. EMG patients will be assigned a Service Level based on total resources consumed, from the EMTALA Medical Screening Examination to final patient disposition.
6. In addition to EMG Service Level charge, the hospital will charge separately for drugs, supplies, and ancillary services (as noted in 4 above). Professional fees are not regulated by the HSCRC and therefore are not included in the hospital's charges. Professional fees would be a separate charge.

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May 30, 2019

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Re: Emergency Services Revisions (Section 200 & Appendix D)

Dear Mr. Hoff,

On behalf of the Johns Hopkins Health System (JHHS) and our member hospitals, we appreciate the opportunity to comment on the Draft revisions to Section 200 and Appendix D for Emergency Services. We would like to submit the following recommendations regarding the draft proposal:

- **Proposed Appendix D language varies from language agreed upon during task force meetings** – Our staff who attended the task force meetings has indicated that this version of Appendix D does not reflect the results of the agreed upon changes made during the task force meetings. We recommend that the agreed upon version be submitted for review and comment by all Maryland hospitals.

- **Guidelines are unclear** – The goal of a relative value unit task force is to create clarity in the Appendix D to support consistent reporting by all hospitals in Maryland. The updated Appendix D has RVU values assigned to different CPT codes that are not reflective of decisions made during the task force meetings. We are also concerned that you have removed the clinical care time ranges from the Level Visit descriptions. My understanding is that many hospital representatives expressed apprehension that there was not enough time allotted for each hospital to re-evaluate their internal reporting tools (including rebuild in the EHR as well as clinical staff education and training). As such, we are very concerned that the removal of this "clinical care time range" will

cause more disparity between the hospitals' approaches to capturing level visits. We recommend that the clinical care time ranges be included next to the CPT description for Levels 1 through 5 (excluding MSE and critical care time). I have included **Attachment A** with suggested updates for clarity.

- **Lack of Collaboration** – Although the work group included representatives from Maryland Hospitals, including ours, I understand from my staff that recommendations presented to the HSCRC were not included in this version of Appendix D. If the HSCRC does not consider open questions and concerns, this may lead to confusion and cause inconsistency among the hospitals. There are some suggested updates within **Attachment A** to incorporate collaboration and ensure a streamlined implementation.

- **Continued task force effectiveness** – Our hospital wants to help in insuring clarity and effectiveness of HSCRC regulations, and it is our goal to continue to support a collaborative approach.

- **Increased Denials** – We have significant financial concerns regarding this conversion. Through our conversations with MCOs, we anticipate that denials will increase. The new structure of relative value units limiting the medical screening examination (MSE) to one RVU and increasing the overall RVU for levels two through five will shift revenue from MSE to services beyond MSE. This will inadvertently increase EMTALA denials for hospitals. In addition, by moving away from clinical care time (which can be tracked and supported) to the more general definition of resources (which is subject to interpretation), this will lend itself to time consuming and expensive debates between hospitals and payers.

On behalf of JHHS, we appreciate your consideration of our comments and hope we can continue working through the details of these recommendations.

Sincerely,

Ed Beranek
Vice President of Revenue Management and Reimbursement
Johns Hopkins Health system

Attachment A: Appendix D draft with suggested updates

REVISED APPENDIX D
STANDARD UNIT OF MEASURE REFERENCES
EMERGENCY SERVICES

CPT Services Levels – Important reporting requirement: Add 99281 RVU value of 1 to each level 99282-99285 and Critical Care 99291 for Medical Screening Exam (MSE) to calculate total RVUs.

~~CPT Services Levels~~		~~RVU~~
~~99281~~	~~Level I/ EMTALA (Medical Screening Examination)~~	~~1~~
~~99282~~	~~Level II~~	~~1~~
~~99283~~	~~Level III~~	~~2~~
~~99284~~	~~Level IV~~	~~4~~
~~99285~~	~~Level V~~	~~7~~
~~99291~~	~~Level V~~	~~7~~

		RVU	RVU w/ MSE
99281	Level I - Brief (Usually 0<15 minutes CCT)	1	1
	EMTALA Medical Screening Examination (not to be charged with Level I)	1	N/A
99282	Level II - Intermediate (Usually 15<30 minutes CCT)	1	2
99283	Level III - Extended (Usually 30<60 minutes CCT)	2	3
99284	Level IV - Intensive (Usually 60<120 minutes CCT)	4	5
99285	Level V - Comprehensive (Usually 120+ minutes CCT)	7	8
99291	Critical Care	7	8

Examples of how to report services:

1. If a patient is seen by a QHP and receives only a Level I visit, the total RVU value would only be 1. The EMTALA medical screening examination is included with this RVU.
2. If a patient receives a Level 2 through 5 or Critical Care visit, the level RVU values would be 1, 2, 4, and 7 respectively. The EMTALA medical screening examination is also reported resulting in total RVUs for the visits totaling 2, 3, 5, and 8 respectively.

ECS (Extended Care Services) -The RVUs assigned are based on clock time. 1 RVU per 2 hours for a period up to 48 hours. (Max of 24 RVUs.)

As extended care services are reported hourly rather than every other hour, an RVU value of .5 per 1-hour increment may be used.

Extended Care Service

- This service is associated with outpatients who have received EMG services and are awaiting transfer discharge to another facility. ~~s~~Some examples includes~~;~~ tertiary care facility, nursing home, inpatient psychiatric facility, ~~and~~ etc. The services being provided to the patient during ECS may or may not be ~~minor~~ resource intensive.
- This is an add-on RVU to Level V only once Level V is reached (e.g., ECS RVUs may be added to the Treatment Level V RVUs) and is for services provided AFTER EMG Treatment.
- ~~If the~~ The services provided during ECS ~~are major, the Service Level may be increased.~~ may increase the EMG level to a Level V but cannot be counted for both the increase in resource use to calculate the level and count toward ECS at the same time.
- Extended Care Services are based on "clock time". For each full one-hour ~~two hour~~ period of clock time, ~~one (1)~~ .5 RVU is assigned. Any partial hours are rounded down to the nearest full ~~two~~ hour ~~period~~. For example, ~~two~~ one hour and five minutes is reported as ~~two hours~~ one hour = .5 ~~one~~ RVU. ~~Two~~ One hour and fifty-five minutes is reported as one ~~two~~ hour ~~period~~ = .5 ~~one~~ RVU.
- To qualify for ECS reporting, the patient must be an outpatient and must be transferred to another facility. The transfer must be fully documented in the medical record.
- Below are ~~four~~ five examples of the proper reporting of Extended Care Service:
  1. A ~~trauma~~ patient begins his EMG visit at noon. The resources utilized resulted in a service Level V ~~service~~ being assigned. The patient is stabilized and is to be transferred to ~~a trauma~~ another facility. The time is now 12:55 pm. ~~Because of inclement weather conditions~~ Due to over capacity at the receiving facility, the transfer is delayed for four and one half (4.5) hours. The reporting of RVUs would be as follows: EMTALA one RVU plus ~~service~~ Level V seven RVUs, plus ECS for 4 hours= 2.0 RVUs (rounded down to four hours from the actual of four- and one-half hours. ~~(4.5),~~ ~~t~~The total RVUs reported would be 1+7+2= **10** RVUs).
  2. A ~~trauma~~ patient begins his EMG visit at noon. The resources utilized resulted in a service Level III being assigned. The patient is stabilized and is to be transferred to ~~a trauma~~ another facility. The time is now 12:45 pm. The patient is immediately transferred to another facility. The reporting of RVUs would be as follows: EMTALA one RVU plus ~~service~~ Level III two RVUs (1+2= **3** RVUs). There are no ECS RVUs reported because the visit was not a Level V. ~~, since the reported Level was something other than Level V.~~
  3. A ~~trauma~~ patient begins his EMG visit at noon. The patient is stabilized and is to be transferred to ~~a trauma~~ another facility. The resources utilized resulted in a service Level IV being assigned. The time is now 1:00

pm. ~~Because of inclement weather conditions~~ Due to over capacity at the receiving facility, the transfer is delayed for four and one half (4.5) hours. The reporting of RVUs would be as follows: EMTALA one RVU plus ~~service~~ Level IV four RVUs (1+4= **5** RVUs). There is no ECS RVUs reported, since the reported Level was something other than Level V.

4. A ~~trauma~~ patient begins his EMG visit at noon. The patient is stabilized by 1:00 P.M. and is to be transferred to ~~a trauma~~ another facility. The resources utilized resulted in a service Level III being assigned. ~~Because of inclement weather conditions~~ Due to over capacity at the receiving facility, the transfer is delayed for nine (9.0) hours and is transferred at ~~9~~10:00 P.M. ~~Major resources~~ Significant resources, above and beyond waiting for transfer, were utilized the first three hours of the delay and the service level was increased to Level V. The remaining six (6) hours of the delay is now considered ECS. The reporting of RVUs would be as follows: EMTALA one RVU plus ~~services~~ Level V 7 RVUs, plus ECS for 6 hours (3 RVUs) (1+7+3= **11** RVUs.) ~~the total RVUs would be 11 RVUs~~.

5. A patient begins his EMG visit at noon. The patient is stabilized by 1:00 P.M. and is to be transferred to another facility. The resources utilized resulted in a service Level III being assigned. Due to over capacity at the receiving facility, the transfer is delayed for nine (9) hours and the patient is transferred at 10:00 pm. Resources were utilized while the patient awaited transfer, but the service level remained at Level III. There are no ECS hours reported because the visit was not a Level V. The reporting of RVUs would be as follows: EMTALA one RVU plus Level III two RVUs (1+2 = **3** RVUs).

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CalvertHealthMedicine.org

May 29, 2019

William H. Hoff, MBA
Chief, Audit & Compliance
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, MD 21215

Re: Emergency Services Revisions (Section 200 & Appendix D)

Dear Mr. Hoff:

In response to your memorandum dated May 8, 2019 regarding Changes to the Relative Value Units Scale on Emergency Department Services, please accept this as CalvertHealth Medical Center's (CHMC) written comment letter. CHMC understands HSCRC's position of changing the RVU assignment and language of the current Emergency Services (EMG) Appendix D for standardizing the EMG Relative Value Units (RVUs) to national levels of cost-based weights. However, CHMC suggest changes and further explanation of the RVUs as assigned should be included. The following changes were discussed and perceived as accepted by staff at the task force meetings, specifically March 27, 2019:

- In the revised Appendix D, the CPT chart indicates that Emergency Medical Treatment & Labor Act (EMTALA) is identified with CPT code 99281. However, American Medical Association (AMA) does not identify EMTALA with a CPT code. Therefore, in keeping with one of HSCRC's objectives to assign RVUs by CPT code, it is inappropriate to classify EMTALA with 99281 within Appendix D.
- The Service Level descriptions of 99281-99285 should be consistent with the industry's common language of visit levels and definitions.
- Additionally, the Service Level description of 99291 within the CPT chart should be consistent with the AMA's CPT manual and identify as Critical Care.
- Furthermore, a footnote within Appendix D should be incorporated to clarify the total RVUs for visit levels II-V and Critical Care (99281-99285 and 99291) include EMTALA.

The following chart reflects CHMC suggested changes as identified above. This should replace the chart on page two of the revised Appendix D.

CPT	Service Levels	* RVU
99281	Level I - Breif Level of Care	1
99282	Level II - Intermediate Level of Care	2
99283	Level III - Extended Level of Care	3
99284	Level IV - Intensive Level of Care	5
99285	Level V - Comprehensive Level of Care	8
99291	Critical Care	8

*** - The Relative Value Units represented above by CPT code/Level of Care are inclusive of 1 RVU meeting the requirements of EMTALA.**

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Although, CHMC understands the position of the RVU changes to coincide with national levels of cost-based weights the following concerns should be considered:

- Due to a revenue neutral conversion and the new weighting of the RVUs, the lower level of care charges increase from current pricing and higher level of care charges decrease from current pricing.
- The majority of EMTALA denials from Medicaid MCOs occur with lower level of care visits. Therefore, the hospitals will incur greater dollars denied or "written-off charges".

In conclusion, CHMC appreciates the opportunity to comment on the draft revisions to Section 200 and Appendix D for Emergency Services. However, we hope the suggested changes and concerns as outlined are considered for final approval by HSCRC staff and Commissioners. Additionally, the narrative of the RVU assignment will aid the effort to create clarity in Appendix D and support consistent reporting by all hospitals in Maryland.

Sincerely,

Richard T. Pellegrino
Director of Financial Planning & Reimbursement

Cc: Carolyn Heithaus, V.P. of Finance & CFO

Adventist HealthCare

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May 30, 2019

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Chief, Audit & Compliance
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Ref: Emergency Services Revisions (Section 200 & Appendix D)

Dear Mr. Hoff,

On behalf of Adventist HealthCare, I appreciate the opportunity to comment on the Draft revisions to Section 200 and Appendix D for Emergency Services. Specifically I would like to comment on the table in Appendix D and the Extended Care Services (ECS) section.

I thought one of the goals of our Relative Value Unit (RVU) task group meetings was to provide clarity on RVU assignment. This clarity is important for the hospital providers and any other user of Appendix D (i.e. Auditors performing the Special Audit). As part of the Special Audit, our Auditors rely on Appendix D to help them understand the RVU structure for each rate center and confusion may occur if the RVU structure is not explicitly identified. In reading the draft revisions, I find the RVU table provided to be confusing. To help eliminate this confusion for all parties, I believe the table presented in the draft revisions needs to be refined. Refining this table will help provide the clarity the HSCRC and the Maryland Hospital Industry is seeking. Included in this letter is an attachment with suggested changes to the table.

As for the Extended Care Services (ECS) section, I am not clear on what "ECS are major" (bullet point 3) means. During our meetings, I do not recall any discussion concerning this point, and I feel this needs to be better explained. One hospital system's definition of "major resources provided" may be different from another and without mutual understanding, inconsistencies will occur. Additionally, you provided four examples of how to report ECS and in each example the word "trauma" is used. I feel the word "trauma" needs to be stricken from the examples because not all patients awaiting transfer are trauma patients, nor are all patients going to trauma facilities.

Thank you in advance for your consideration of my comments.

Sincerely,

Karen Bowne

Karen Bowne
Adventist HealthCare
Reimbursement & CDM Manager

CPT Code	Description	MSE* RVU	Beyond MSE RVU	Total RVU
99281	Level I	1	0	1
99282	Level II	1	1	2
99283	Level III	1	2	3
99284	Level IV	1	4	5
99285	Level V	1	7	8
99291	Critical Care	1	7	8

*MSE = Medical Screening Examination

Maryland
Hospital Association

May 30, 2019

William Hoff
Chief, Audit and Compliance
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, MD 21215

Dear William:

On behalf of the state's 61-member hospitals and health systems, the Maryland Hospital Association appreciates the opportunity to comment on the commission staff's draft recommendation to revise relative value units (RVUs) for Emergency Department (EMG) services.

The draft recommendation assigns service level Current Procedural Terminology (CPT) codes to EMG visit levels. This assignment is not explicit under the current scale. It changes the basis of level assignment from clinical care time (CCT) to a generic definition of resource consumption and requires each hospital to develop and maintain internal guidelines for service level assignment. While hospitals appreciate and support the flexibility, it is not clear how the proposed change accomplishes an intended goal to "standardize RVUs at national levels."

The proposed revisions reset the RVU scale for EMG services in a revenue neutral manner. While the proposal does not change EMG gross revenues, it is not clear how the proposed changes will affect *net* revenues due to payer denials. Many hospitals speculate that denials may increase, reducing net revenues. We respectfully ask commission staff to study this impact in rate year 2020.

Maryland's hospitals appreciate the commission staff's efforts on behalf of the Maryland Total Cost of Care model. In this instance, following several meetings, the underlying purpose of the EMG RVU conversion and prioritization of hospital resources to accomplish this purpose, remains unclear. Concurrent with consideration of this proposed change, hospitals are also addressing several key commission policies, including volume, capital funding, care redesign, Medicare Performance Adjustment and others. We also understand that commission staff intend to propose a Clinic RVU conversion in rate year 2020. This is expected to be a large, resource-intensive conversion. Hospitals would appreciate recognition of this new demand on hospital resources. We respectfully request that the commission define the need to prioritize this conversion and better understand how the proposed conversion will align with the goals of the Total Cost of Care Model.

Thank you again for your careful consideration of these matters. If you need additional insights, please contact me.

Sincerely,

Brett McCone
Senior Vice President, Health Care Payment

cc: Katie Wunderlich, Executive Director Dennis Phelps, Associate Director

Rate Year 2020 Uncompensated Care Report

June 12, 2019

Health Services Cost Review Commission
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This document contains the staff report for RY 2020 Uncompensated Care Policy. There are no proposed changes in methodology and thus no need for a formal Commission vote.

Table of Contents

INTRODUCTION

Uncompensated Care (UCC) is care provided for which no compensation is received, typically a combination of charity care and bad debt. Recognizing the financial burden hospitals take on when providing quality care to patients who cannot readily pay for it, the Maryland Health Services Cost Review Commission (HSCRC) factors in the cost of UCC into the State's hospital rate setting structure. This provision increases access to hospital services in the State for those patients who cannot readily pay for them and hospitals equally get credited for the care provided.

The purpose of this report is to provide background information on the UCC policy and to provide by hospital values for the UCC built into statewide rates as well as the UCC pool for rate year (RY) 2020. 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. For RY 2020, the determined UCC amount to be built into rates for Maryland hospitals is 4.26 percent. Under the current HSCRC policy, UCC above the statewide average is funded by a statewide pooling system whereby regulated Maryland hospitals draw funds from the pool should they experience a greater-than-average level of UCC and pay into the pool should they experience a less-than-average level of UCC. This ensures that the cost of UCC is shared equally across all hospitals within the State.

METHODOLOGY

The HSCRC prospectively calculates the rate of uncompensated care at each regulated Maryland hospital using a three-step process, which involves:

1. Determining the actual UCC based on the prior year's bad debt and charity care as reported on the Revenue and Expense (RE) Schedules. Therefore, actual UCC percentages for RY 2020 is computed using bad-debt and charity care as a percentage of gross patient revenue from the RY 2018 RE Schedules. The results from this computation determines the statewide UCC rate that will be built into hospital rate structures. It is important to note that only acute care hospitals are considered when determining the statewide UCC level. All freestanding emergency centers, behavioral health and specialty hospitals are not considered in the determination of how much to fund UCC statewide. (See Appendix II Table 1).

2. The second step invokes a logistic regression model to predict the UCC for RY 2020. A regression is a statistical technique used when determining how much an output amount changes due to changes in multiple inputs. In this case, those inputs include: area deprivation Index (ADI), payer type, and site of care. The results of the logistic regression model are then multiplied by the hospitals total charges as well as the percentage of services that are delivered to commercial patients in the emergency room—the greatest indication of likely uncompensated care. This calculation creates a predicted UCC rate for each hospital. The logistic regression is limited to just acute care hospitals. UMROI, Levindale and Shock Trauma are also excluded from the regression due to the

fact that these hospitals do not incorporate all of the input variables necessary to perform the regression as listed earlier in this section. (See Appendix I).

3. Part 3 of the methodology involves performing a 50/50 blend between the actual UCC computed from the RE Schedules and the Predicted UCC from the regression as a percent of hospital projected RY 2020 GBR. The results of this calculation determines hospital-specific UCC levels in relation to the state-wide UCC level determined in step 1. It is at this step where a determination is made as to how much each hospital will either withdraw from or pay into the UCC pool. (See Appendix I).

ASSESSMENT

The HSCRC must determine the percentage of UCC to incorporate in hospitals' rates in order to fund the UCC pool. Based on the RY 2018 audited reports, the statewide UCC rate was 4.26 percent, 0.10 percent higher than last year's UCC rate of 4.16 percent. RY 2020 will require more hospitals (27) to withdraw from the pool, as their hospital-specific level of UCC exceeded the statewide average incorporated into their rate structure. On the other hand, 19 hospitals experienced a less than average level of UCC, thus, will be expected to pay into the pool.

According to the statistics published by the U.S. Census Bureau on September 16, 2015, the rate of Marylanders without health insurance decreased from 10.2 percent in 2013 to 7.9 percent in 2014.[1] Based on the Census Bureau's American Community Survey, Kaiser Family Foundation estimates Maryland's uninsured rate to have decreased to 6 percent as of 2017;[2] however, as the RY 2018 experience demonstrates, the continuing reductions in UCC that resulted from the implementation of the Affordable Care Act and the lowering of the uninsured population may have slowed. For RY 2020, staff will provide a UCC rate of 4.26 percent in rates in keeping with prior year methodologies.

IMPLEMENTATION

Based on the preceding analysis, HSCRC staff will implement the following for RY 2020:

1. Increase the statewide UCC provision in rates from 4.16% to 4.26% effective July 1, 2019.
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 FY18 audited UCC levels and FY2020 predicted UCC levels to determine hospital-specific adjustments.

[1] http://www.marylandhbe.com/fewer-marylanders-without-health-coverage-census-bureau-reports/
[2] https://www.kff.org/other/state-indicator/total-population/?currentTimeframe=0&selectedRows=%7B%22states%22:%7B%22maryland%22:%7B%7D%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

FUTURE CONSIDERATIONS

Staff has begun evaluating the possibility of using multi-year actual UCC averages in lieu of the one year figures to do the 50/50 blend with predicted UCC from the regression. Staff believes that using two years of history will make the statistic more stable, especially as the effects of the implementation of the Affordable Care Act appear to have mitigated. For RY 2021 UCC calculations, staff will work with stakeholders to consider incorporating this change and will follow the commission's protocol for policy creation prior to implementation.

Appendix I. Hospital Uncompensated Care provision FOR RY 2020

HOSPID	Hospital Name	FY 2020 GBR Permanent Revenue	FY 2018 UCC Based on FY 2020 GBR Permanent Revenue	FY 2018 Percent UCC from the RE Schedule	Percent Predicted UCC (Adjusted)	Predicted UCC Amounts (Based on FY 2020 GBR Permanent Revenue)	50/50 Blend Percent	50/50 Blend Adjusted to FY 2018 UCC Based on FY 2020 GBR Permanent Revenue Level	Percent UCC
210001	Meritus Medical Center	$ 380,689,616	$ 16,468,806	4.33%	4.78%	$ 18,193,023	4.55%	17,916,844	**4.71%**
210002	University of Maryland Medical Center	$ 1,590,748,689	$ 65,150,976	4.10%	2.73%	$ 43,380,483	3.41%	56,100,365	**3.53%**
210003	Prince Georges Hospital Center	$ 361,893,556	$ 33,085,733	9.14%	7.15%	$ 25,886,832	8.15%	30,483,165	**8.42%**
210004	Holy Cross Hospital	$ 519,097,757	$ 37,913,186	7.30%	6.43%	$ 33,381,900	6.87%	36,852,728	**7.10%**
210005	Frederick Memorial Hospital	$ 361,860,823	$ 15,712,204	4.34%	4.75%	$ 17,189,071	4.55%	17,006,806	**4.70%**
210006	Harford Memorial Hospital	$ 110,046,654	$ 7,546,368	6.86%	4.21%	$ 4,629,994	5.53%	6,294,012	**5.72%**
210008	Mercy Medical Center	$ 557,245,068	$ 24,599,529	4.41%	3.70%	$ 20,598,559	4.06%	23,363,080	**4.19%**
210009	Johns Hopkins Hospital	$ 2,548,991,827	$ 63,020,170	2.47%	2.94%	$ 74,923,863	2.71%	71,303,847	**2.80%**
210010	University of Maryland Shore Medical Center at Dorchester	$ 48,492,085	$ 2,715,394	5.60%	4.71%	$ 2,284,600	5.16%	2,584,518	**5.33%**
210011	St. Agnes Hospital	$ 431,213,240	$ 21,682,228	5.03%	5.06%	$ 21,799,278	5.04%	22,475,772	**5.21%**
210012	Sinai Hospital	$ 795,084,589	$ 27,983,954	3.52%	3.57%	$ 28,412,809	3.55%	29,151,723	**3.67%**
210013	Bon Secours Hospital	$ 115,740,864	$ 2,461,920	2.13%	3.91%	$ 4,520,648	3.02%	3,609,319	**3.12%**
210015	MedStar Franklin Square Hospital Center	$ 567,997,366	$ 22,461,193	3.95%	3.55%	$ 20,178,004	3.75%	22,040,379	**3.88%**

210016	Washington Adventist Hospital	$ 303,844,410	$ 21,337,645	7.02%	6.60%	$ 20,044,685	6.81%	21,390,699	**7.04%**
210017	Garrett County Memorial Hospital	$ 63,741,109	$ 4,188,369	6.57%	4.76%	$ 3,033,340	5.66%	3,732,931	**5.86%**
210018	MedStar Montgomery Medical Center	$ 184,811,322	$ 5,844,722	3.16%	3.43%	$ 6,345,209	3.30%	6,301,026	**3.41%**
210019	Peninsula Regional Medical Center	$ 460,484,944	$ 16,088,058	3.49%	4.25%	$ 19,549,560	3.87%	18,421,233	**4.00%**
210022	Suburban Hospital	$ 338,155,979	$ 11,498,058	3.40%	3.77%	$ 12,732,148	3.58%	12,524,694	**3.70%**
210023	Anne Arundel Medical Center	$ 647,266,654	$ 18,101,619	2.80%	3.28%	$ 21,261,578	3.04%	20,347,001	**3.14%**
210024	MedStar Union Memorial Hospital	$ 429,943,694	$ 15,434,712	3.59%	3.54%	$ 15,225,882	3.57%	15,848,589	**3.69%**
210027	Western Maryland Regional Medical Center	$ 338,536,921	$ 16,891,616	4.99%	4.24%	$ 14,370,112	4.62%	16,159,318	**4.77%**
210028	MedStar St. Mary's Hospital	$ 194,729,967	$ 8,119,547	4.17%	3.93%	$ 7,646,485	4.05%	8,149,528	**4.19%**
210029	Johns Hopkins Bayview Medical Center	$ 697,766,565	$ 35,836,547	5.14%	4.22%	$ 29,433,146	4.68%	33,738,177	**4.84%**
210030	University of Maryland Shore Medical Center at Chestertown	$ 56,271,022	$ 2,954,916	5.25%	3.52%	$ 1,981,945	4.39%	2,551,884	**4.53%**
210032	Union Hospital of Cecil County	$ 168,187,347	$ 9,904,267	5.89%	4.29%	$ 7,220,371	5.09%	8,851,797	**5.26%**
210033	Carroll Hospital Center	$ 236,875,262	$ 3,905,694	1.65%	3.30%	$ 7,818,881	2.47%	6,060,482	**2.56%**
210034	MedStar Harbor Hospital Center	$ 194,816,948	$ 8,302,547	4.26%	4.03%	$ 7,847,853	4.15%	8,348,210	**4.29%**
210035	University of Maryland Charles Regional Medical Center	$ 160,639,807	$ 8,590,391	5.35%	4.44%	$ 7,131,997	4.89%	8,126,968	**5.06%**
210037	University of Maryland Shore Medical Center at Easton	$ 224,843,987	$ 8,068,097	3.59%	3.27%	$ 7,343,263	3.43%	7,966,196	**3.54%**
210038	University of Maryland Medical Center Midtown Campus	$ 230,189,838	$ 12,781,255	5.55%	3.38%	$ 7,780,141	4.47%	10,628,271	**4.62%**

210039	Calvert Memorial Hospital	$ 153,203,562	$ 5,845,601	3.82%	3.66%	$ 5,609,923	3.74%	5,921,408	**3.87%**
210040	Northwest Hospital Center	$ 272,658,706	$ 11,794,057	4.33%	4.66%	$ 12,712,584	4.49%	12,667,585	**4.65%**
210043	University of Maryland Baltimore Washington Medical Center	$ 453,382,147	$ 27,412,095	6.05%	3.79%	$ 17,189,204	4.92%	23,054,598	**5.09%**
210044	Greater Baltimore Medical Center	$ 478,852,948	$ 10,773,739	2.25%	3.26%	$ 15,601,713	2.75%	13,633,581	**2.85%**
210045	McCready Memorial Hospital	$ 14,913,588	$ 861,682	5.78%	5.70%	$ 849,552	5.74%	884,544	**5.93%**
210048	Howard County General Hospital	$ 313,106,183	$ 11,369,674	3.63%	3.94%	$ 12,322,683	3.78%	12,246,678	**3.91%**
210049	Upper Chesapeake Medical Center	$ 326,583,211	$ 9,547,273	2.92%	3.30%	$ 10,788,165	3.11%	10,511,473	**3.22%**
210051	Doctors Community Hospital	$ 257,989,984	$ 16,972,751	6.58%	5.41%	$ 13,950,633	5.99%	15,984,426	**6.20%**
210055	Laurel Regional Hospital	$ 45,718,466	$ 4,363,842	9.55%	7.77%	$ 3,552,307	8.66%	4,091,890	**8.95%**
210056	MedStar Good Samaritan Hospital	$ 266,955,495	$ 11,102,736	4.16%	4.10%	$ 10,941,476	4.13%	11,394,745	**4.27%**
210057	Shady Grove Adventist Hospital	$ 462,206,163	$ 23,161,453	5.01%	4.97%	$ 22,993,747	4.99%	23,857,816	**5.16%**
210060	Fort Washington Medical Center	$ 52,404,045	$ 5,182,789	9.89%	8.50%	$ 4,451,786	9.19%	4,980,152	**9.50%**
210061	Atlantic General Hospital	$ 112,341,874	$ 5,562,433	4.95%	4.79%	$ 5,380,955	4.87%	5,656,683	**5.04%**
210062	MedStar Southern Maryland Hospital Center	$ 281,994,049	$ 14,291,147	5.07%	4.23%	$ 11,936,723	4.65%	13,557,295	**4.81%**
210063	University of Maryland St. Joseph Medical Center	$ 390,727,567	$ 15,271,363	3.91%	3.64%	$ 14,231,186	3.78%	15,249,991	**3.90%**
210065	Holy Cross Hospital - Germantown	$ 107,941,964	$ 9,813,585	9.09%	8.75%	$ 9,442,429	8.92%	9,953,514	**9.22%**
	Total	**$ 17,311,187,864**	**$ 731,975,942**	**4.23%**	**3.96%**	**$ 684,100,723**	**4.09%**	**731,975,942**	**4.23%**

Note: Levindale, UMROI, and UM-Shock Trauma are not included in this analysis. If included, the actual UCC from RY 2018 RE Schedule would be 4.26%. This rate of 4.26% is what is built into rates.

Appendix II. Write-Off Data Summary Statistics

The table below presents the actual UCC change by hospital between FY 2017 and FY 2018– it does not reflect predicted UCC rates.

Appendix II. Table 1. Actual UCC Change by Hospital, FY 2017-2018

HOSPID	HOSPNAME	RY 2017 %UCC	RY 2018 %UCC	Variance Over/Under
210001	Meritus Medical Cntr	4.28%	4.33%	-0.04%
210002	UMMC	4.07%	4.10%	-0.02%
210003	UM-Prince George's Hospital	8.70%	9.14%	-0.44%
210004	Holy Cross	7.19%	7.30%	-0.11%
210005	Frederick Memorial	4.42%	4.34%	0.07%
210006	UM-Harford Memorial	6.77%	6.86%	-0.08%
210008	Mercy Medical Cntr	4.27%	4.41%	-0.14%
210009	Johns Hopkins	2.63%	2.47%	0.16%
210010	UM-SRH at Dorchester	5.12%	5.60%	-0.48%
210011	St. Agnes Hospital	4.00%	5.03%	-1.02%
210012	Sinai Hospital	3.29%	3.52%	-0.23%
210013	Bon Secours	2.47%	2.13%	0.34%
210015	MedStar Franklin Square	3.54%	3.95%	-0.41%
210016	Washington Adventist	6.47%	7.02%	-0.56%
210017	Garrett Co Memorial	7.81%	6.57%	1.24%
210018	MedStar Montgomery	3.02%	3.16%	-0.15%
210019	Peninsula Regional	4.17%	3.49%	0.68%
210022	Suburban	2.95%	3.40%	-0.45%
210023	Anne Arundel Medical Cntr	2.95%	2.80%	0.15%
210024	MedStar Union Memorial	3.11%	3.59%	-0.48%
210027	Western Maryland	4.84%	4.99%	-0.14%
210028	MedStar St. Mary's	3.95%	4.17%	-0.22%
210029	JH Bayview	4.11%	5.14%	-1.03%
210030	UM-SRH at Chestertown	4.99%	5.25%	-0.26%
210032	Union Hospital of Cecil Co	4.13%	5.89%	-1.75%
210033	Carroll Co Hospital Cntr	1.52%	1.65%	-0.13%
210034	MedStar Harbor Hospital Cntr	4.71%	4.26%	0.45%
210035	UM-Charles Regional	5.29%	5.35%	-0.06%
210037	UM-SRH at Easton	3.15%	3.59%	-0.44%
210038	UMMC - Midtown	7.29%	5.55%	1.74%
210039	Calvert Health Med Cntr	4.15%	3.82%	0.33%
210040	Northwest Hospital Cntr	4.81%	4.33%	0.48%
210043	UM-BWMC	6.36%	6.05%	0.31%
210044	GBMC	3.30%	2.25%	1.05%

210045	McCready Memorial	4.58%	5.78%	-1.20%
210048	Howard County General	2.89%	3.63%	-0.74%
210049	UM-Upper Chesapeake	3.77%	2.92%	0.85%
210051	Doctors Community	4.70%	6.58%	-1.88%
210055	UM-Laurel Regional	10.49%	9.55%	0.94%
210056	MedStar Good Samaritan	3.97%	4.16%	-0.19%
210057	Shady Grove	3.45%	5.01%	-1.56%
210058	UM-ROI	5.91%	5.07%	0.84%
210060	FT. Washington	8.56%	9.89%	-1.33%
210061	Atlantic General	5.61%	4.95%	0.66%
210062	MedStar Southern MD	4.36%	5.07%	-0.71%
210063	UM-St. Joseph Med Cntr	4.12%	3.91%	0.21%
210064	Levindale	4.30%	3.12%	1.18%
210065	HC-Germantown	9.16%	9.09%	0.07%
218992	UM-Shock Trauma	6.20%	6.20%	0.00%
Total		**4.16%**	**4.26%**	**-0.10%**

Note: Free-Standing EDs, Behavior Health and Specialty Hospitals are not included in this analysis
Source: HSCRC RE Schedules

Appendix II. Table 2. UCC Write Off Distribution by Payer, RY 2018

The table below presents the UCC write off distribution by payer for services provided in FY 2018 based on the account-level information provided to the Commission. The largest contributor to UCC write off is from patients with a primary payer of charity care/self-pay at 35.11 percent of total UCC write off. Commercial payers and Medicaid (including out-of-state Medicaid) accounted for 29.60 and 12.58 percent of UCC, respectively.

UCC Write Off Distribution by Payer, RY 2018

Payer	Total Write Off	% of Total Write Off
Medicaid	$ 82,822,342	12.58%
Self-Pay/Charity	$ 231,249,319	35.11%
Other	$ 36,976,998	5.61%
Medicare	$ 112,586,949	17.09%
Commercial	$ 194,980,915	29.60%
Total	$ 658,616,522.86	100.00%

Policy Update Report and Discussion

Staff will present materials at the Commission Meeting.

State of Maryland
Department of Health

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Chairman

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TO: **Commissioners**

FROM: **HSCRC Staff**

DATE: **June 12, 2019**

RE: **Hearing and Meeting Schedule**

July 10, 2019	To be determined - 4160 Patterson Avenue HSCRC/MHCC Conference Room
August 14, 2019	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://hscrc.maryland.gov/Pages/commission-meetings.aspx.

Post-meeting documents will be available on the Commission's website following the Commission meeting.