
Complexity and Innovation Policy
January 30, 2020

Executive Overview

- ▶ Stakeholder Comments and Responses
- ▶ Final Modeling

Stakeholder Comments

- ▶ Staff received 5 comment letters (MedStar, University of Maryland Medical System and Johns Hopkins Health System, Maryland Hospital Association, CareFirst, and the Rockburn Institute)
- ▶ All letters were generally supportive of a policy to specially recognize complex and innovative procedures, but did seek additional clarification and proposed various considerations for the final policy. Support was expressed for the following:
 - ▶ Using cell dominance as means to determine complex and innovative cases
 - ▶ Acknowledging this policy should be applied to the state's two academic medical centers
 - ▶ Prospectively adjusting hospitals global budgets in recognition of historical average growth
- ▶ Comments that require staff feedback can be categorized into four areas:
 - ▶ Rebranding
 - ▶ Broaden Policy
 - ▶ Additional Clarification
 - ▶ Additional Assurances

Stakeholder Comments: Rebranding

- ▶ The Rockburn Institute recommended changing the name of the policy from the Intensity and Innovation Policy to the Complexity and Innovation Policy.
 - ▶ “Intensity is usually associated with the amount of effort or cost or quantity of services.”
“...Complexity has salience and is associated with: medical factors; socioeconomic and mental illness factors; and patient behaviors and traits.” - Rockburn Institute
- ▶ **Staff concurs with this recommendation**

Stakeholder Comments:

Additional Clarification (Rebates and Discounts)

- ▶ Commissioners and CareFirst expressed concern about how rebates and discounts would be handled in the policy.
- ▶ **Response:** The complexity and innovation policy is purposefully restricted to inpatient service; therefore, the 340B rebates are not relevant to this policy as they are only applied to outpatient drugs.
 - ▶ Staff would also note that 340B costs are considered in the CDS-A methodology.
- ▶ Staff would also note that the Complexity and Innovation Policy is using Level II costs (direct costs and overhead costs as well building and general equipment costs) and these costs are net of any other rebates.
 - ▶ Because markup is not uniform across all drugs, staff will implement an annual special audit process to ensure that cost to charge ratios do not over time become higher for innovative cases, thereby allowing the AMCs to collect a greater increase in revenues from charge variation as opposed to actual volume growth.

Stakeholder Comments:

Additional Clarification (Rebates and Discounts) cont.

Potential Markup Issues

		<u>Actual Supply Cost</u>	<u>Volume</u>	<u>Actual Cost</u>	<u>Variation from Actual Cost Increase</u>	<u>Comments</u>
Cost Analysis if Individual Case Costs were Available	Year 1	\$50,000	2	\$100,000		
	Year 2	\$50,000	3	\$150,000		Ideal but not available
	Cost Increase	\$0		\$50,000		
		<u>Charges (25% Markup)</u>	<u>Cost to Charge Ratio</u>	<u>Calculated Costs</u>	<u>Variation from Actual Cost Increase</u>	<u>Comments</u>
Cost Analysis if Individual Case Costs Matched Rate Center Cost to Charge Ratio	Year 1	\$125,000	80%	\$100,000		
	Year 2	\$187,500	80%	\$150,000		Ideal
	Cost Increase			\$50,000	0.00%	
		<u>Charges (25% Markup)</u>	<u>Cost to Charge Ratio</u>	<u>Calculated Costs</u>	<u>Variation from Actual Cost Increase</u>	<u>Comments</u>
Cost Analysis if Individual Case is Lower than Rate Center Cost to Charge Ratio	Year 1	\$125,000	75%	\$93,750		
	Year 2	\$187,500	75%	\$140,625		Most likely to see this because of markup tiering
	Cost Increase			\$46,875	-6.25%	
		<u>Charges (25% Markup)</u>	<u>Cost to Charge Ratio</u>	<u>Calculated Costs</u>	<u>Variation from Actual Cost Increase</u>	<u>Comments</u>
Cost Analysis if Individual Case is Greater than Rate Center Cost to Charge Ratio	Year 1	\$125,000	85%	\$106,250		
	Year 2	\$187,500	85%	\$159,375		Less likely to see this because of markup tiering
	Cost Increase			\$53,125	6.25%	
		<u>Charges (25% Markup)</u>	<u>Cost to Charge Ratio</u>	<u>Calculated Costs</u>	<u>Variation from Actual Cost Increase</u>	<u>Comments</u>
Cost Analysis if Individual Case Matched Rate Center Cost to Charge Ratio but grew in Year 2	Year 1	\$125,000	80%	\$100,000		
	Year 2	\$187,500	85%	\$159,375		Special audit will ensure additional loading of markup does not occur
	Cost Increase			\$59,375	18.75%	
		<u>Charges (25% Markup)</u>	<u>Cost to Charge Ratio</u>	<u>Calculated Costs</u>	<u>Variation from Actual Cost Increase</u>	<u>Comments</u>
Cost Analysis if Individual Case Matched Rate Center Cost to Charge Ratio but declined in Year 2	Year 1	\$125,000	80%	\$100,000		
	Year 2	\$187,500	75%	\$140,625		Less concerned this will occur but could
	Cost Increase			\$40,625	-18.75%	

Stakeholder Comments: Additional Clarification (Calculations)

- ▶ CareFirst asked staff to provide greater clarification on funding calculations:
 - ▶ 1) What years will be included in the average run rate
 - ▶ 2) whether the average will be weighted or simple
 - ▶ 3) if the calculated average will directly match the up-front working capital advance
 - ▶ 4) if UMMC and JHH will have the same working capital advance or if it will be calculated individually
 - ▶ 5) and whether drugs will be included or excluded from this calculation.
- ▶ **Response:**
 - ▶ 1) The years included for the calculation of the average annual growth rate for the RY 2021 working capital advance will be RY 2016 base, RY 2017, 2018 and 2019 growth.
 - ▶ RY 2022 working capital advance will include the same years but also RY 2020. In effect, the working capital advance will always be based on growth from RY 2016 and will not include the most recent rate year growth because of data lag.

Stakeholder Comments:

Additional Clarification (Calculations) cont.

- ▶ 2) The historical annual average growth rate will be based on a simple average.
 - ▶ Ensures that more recent years with greater inflation do not have larger influence on the calculation purely because of inflation and not growth trends.
- ▶ 3) The working capital advance will be equivalent to the historical average growth rate expressed as a percentage of GBR multiplied by the current GBR.
- ▶ 4) Because the historical analysis is limited to 3 years of growth and the dominance determination of $\geq 95\%$ is done across both hospitals, staff is recommending using the average of the two AMCs' historical average growth
 - ▶ Staff believes that using the combined average growth for both academic medical centers will create more stability in the statistic and prevent an individual hospital from driving additional volume in order to increase its working capital advance.
 - ▶ In future years, staff may develop the growth rate independently for each hospital once more data is available and trends normalize
- ▶ 5) Inpatient drugs are included in the Complexity and Innovation policy at Level II costs plus markup. Outpatient drugs are excluded.

Stakeholder Comments:

Broaden Policy (Information Theory)

- ▶ The Rockburn Institute recommended utilizing Information Theory to derive a hospital's complexity and supplement that to staff's cell dominance approach, thereby ensuring clinical significance through additional validating analyses.
- ▶ **Staff concurs with this recommendation but with modifications:**
 - ▶ Staff has amended its recommendation such that the Complexity and Innovation Policy may only be accessed if:
 - ▶ Procedure code cell dominance is exhibited – that is, greater than 95% – AND
 - ▶ Cases have a casemix index of 1.5 or greater
 - Staff notes that the casemix index consideration will not be applied to cases that did not exist in the base and occur in the performance period – that is, zero to dominant – as these cases do not have casemix weights.
 - Staff also notes that the service line of inpatient rehabilitation will be removed from consideration despite having a casemix greater than 1.5, because a central aim of this policy is to address cost pressures associated with procedures that have high variable costs and rehabilitation does not.
- ▶ This modification is in line with the recommendation from the Rockburn Institute, with the exception that Staff's additional validation approach is done at the procedure code level as opposed to the hospital level.

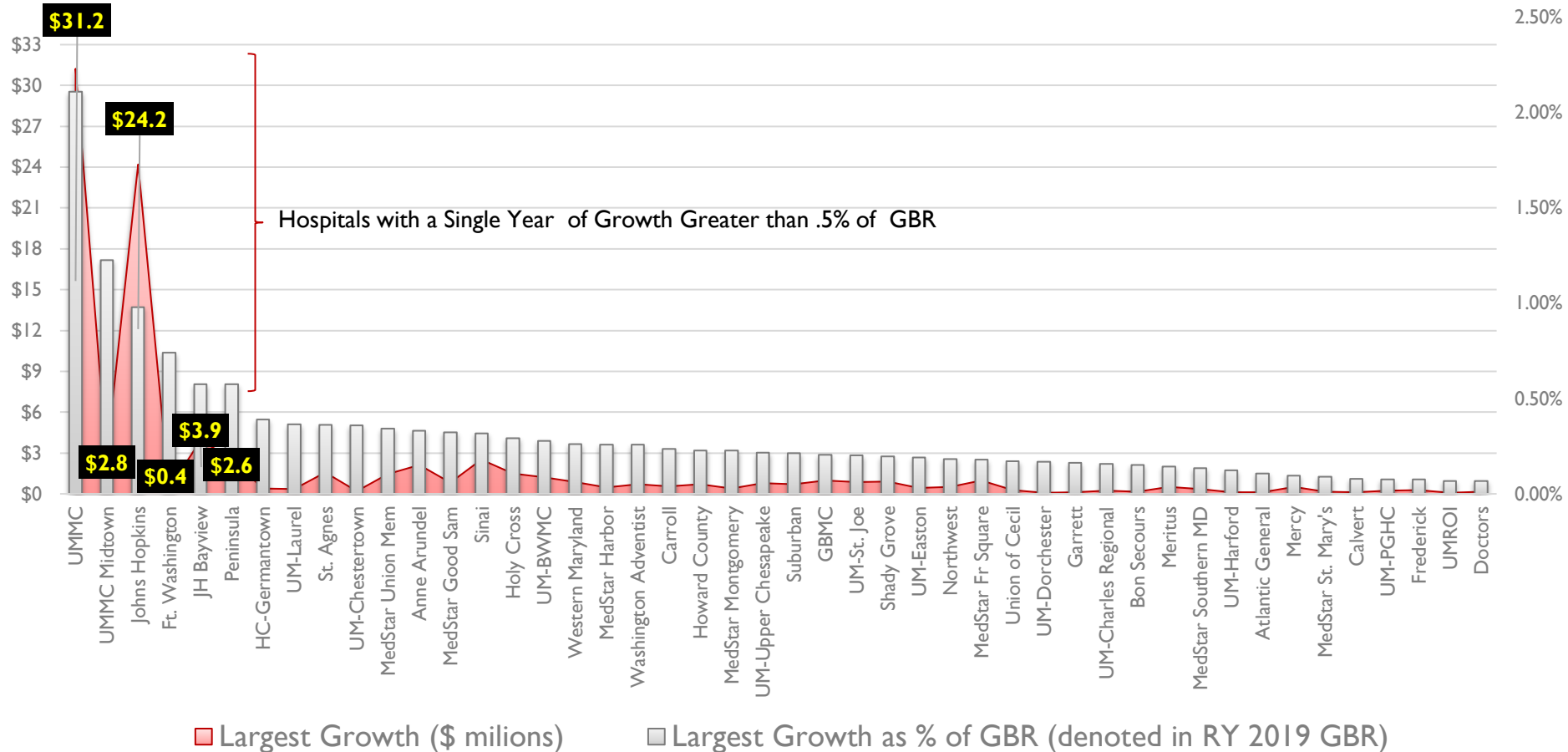
Stakeholder Comments:

Broaden Policy (Extend to All Hospitals)

- ▶ MedStar, Maryland Hospital Association, and CareFirst requested that the Complexity and Innovation Policy be extended to all Hospitals.
- ▶ **Staff concurs with this recommendation but with modifications:**
 - ▶ Staff recommends that other hospitals be eligible for the Complexity and Innovation policy if the hospital exhibits cell dominance and the cases have a casemix index greater than 1.5.
 - ▶ However, based on review of hospitals statewide that meet this criteria, growth is very limited.

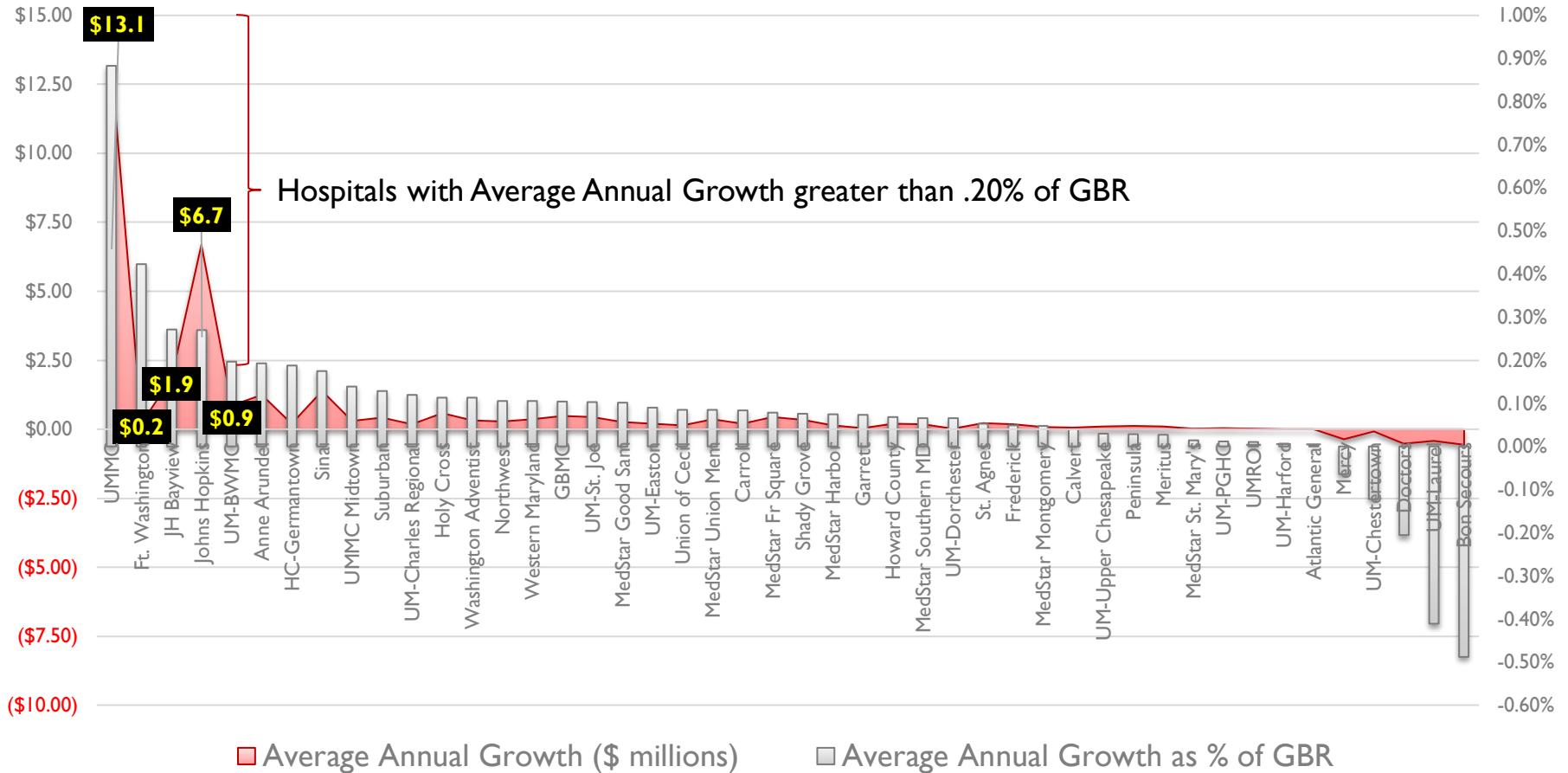
Stakeholder Comments: Broaden Policy (Extend to All Hospitals) cont.

Largest Single Year Growth in Complexity and Innovation by Hospital
(FY17-FY19)



Stakeholder Comments: Broaden Policy (Extend to All Hospitals) cont.

Average Annual Growth in Complexity and Innovation by Hospital
(FY17-FY19)



Stakeholder Comments:

Broaden Policy (Extend to All Hospitals) cont.

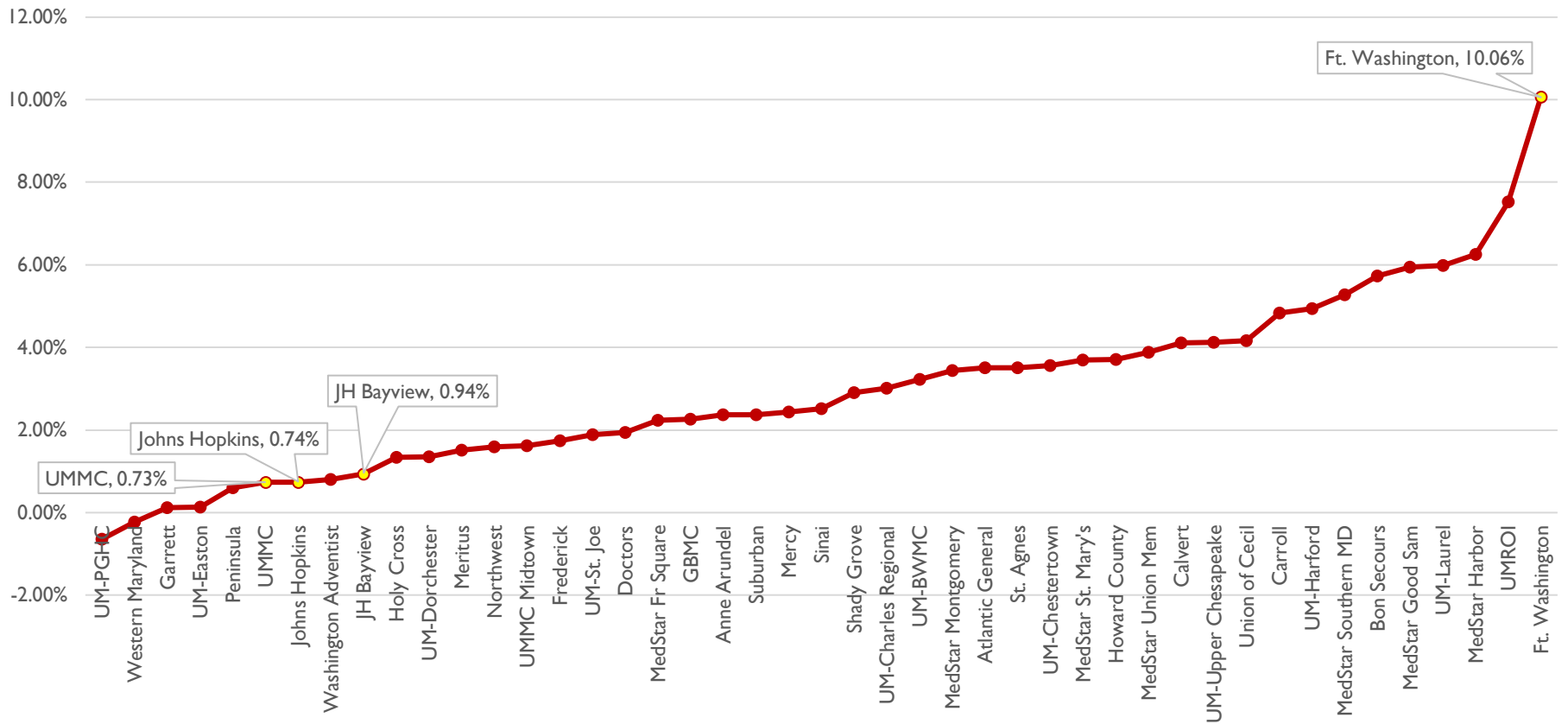
- ▶ Given that University of Maryland Medical Center and Johns Hopkins Hospital have demonstrated significant growth in complex and innovative cases (both in terms of one year maximums and average annual growth), staff recommends the academic medical centers be funded for these types of cases through a prospective adjustment.
- ▶ Staff recommends that other hospitals that have exhibited these same trends (Fort Washington, Bayview Medical Center) not be funded through a prospective adjustment, especially as these hospitals have fared better in core volume methodologies (see next slide).
- ▶ Staff recommends that in lieu of a prospective adjustment, hospitals that meet the criteria for this policy present to HSCRC staff, prior to the Update Factor Recommendation, growth that occurred during the prior calendar year.
 - ▶ Staff will then validate the growth and provide funding in the upcoming fiscal year equivalent to 100% funding for drugs, supplies, and organ acquisition costs plus 50% for all other charges.
 - ▶ Staff will also deduct from this funding any realized gains from the market shift methodology that occurred due to growth in the select highly specialized volume as well as associated Demographic Adjustment funding.



Stakeholder Comments: Broaden Policy (Extend to All Hospitals) cont.

(CY14-CY18)

Total Over (Under) Funding of In-State Relative to 50% Volume Variable System with MS & Demographic Adjustment as % of RY 2019 GBR



Stakeholder Comments:

Broaden Policy (Extend to Outpatient)

- ▶ University of Maryland Medical Center and Johns Hopkins Health System recommended that staff consider extending the policy to outpatient
 - ▶ Additionally, concern expressed that the CDS-A methodology, which provides funding for growth in high cost outpatient drugs, only covers 50% of the actual drug cost and even with the enhanced inflation factor on high cost drugs, only 70% of costs would be covered.
 - ▶ It is, therefore, important to monitor the adequacy of funding in the CDS-A program.
- ▶ **Response:** Staff believes the main driver of complexity and innovation in outpatient care is drugs and there is already a methodology available to all hospitals to address high cost drugs.

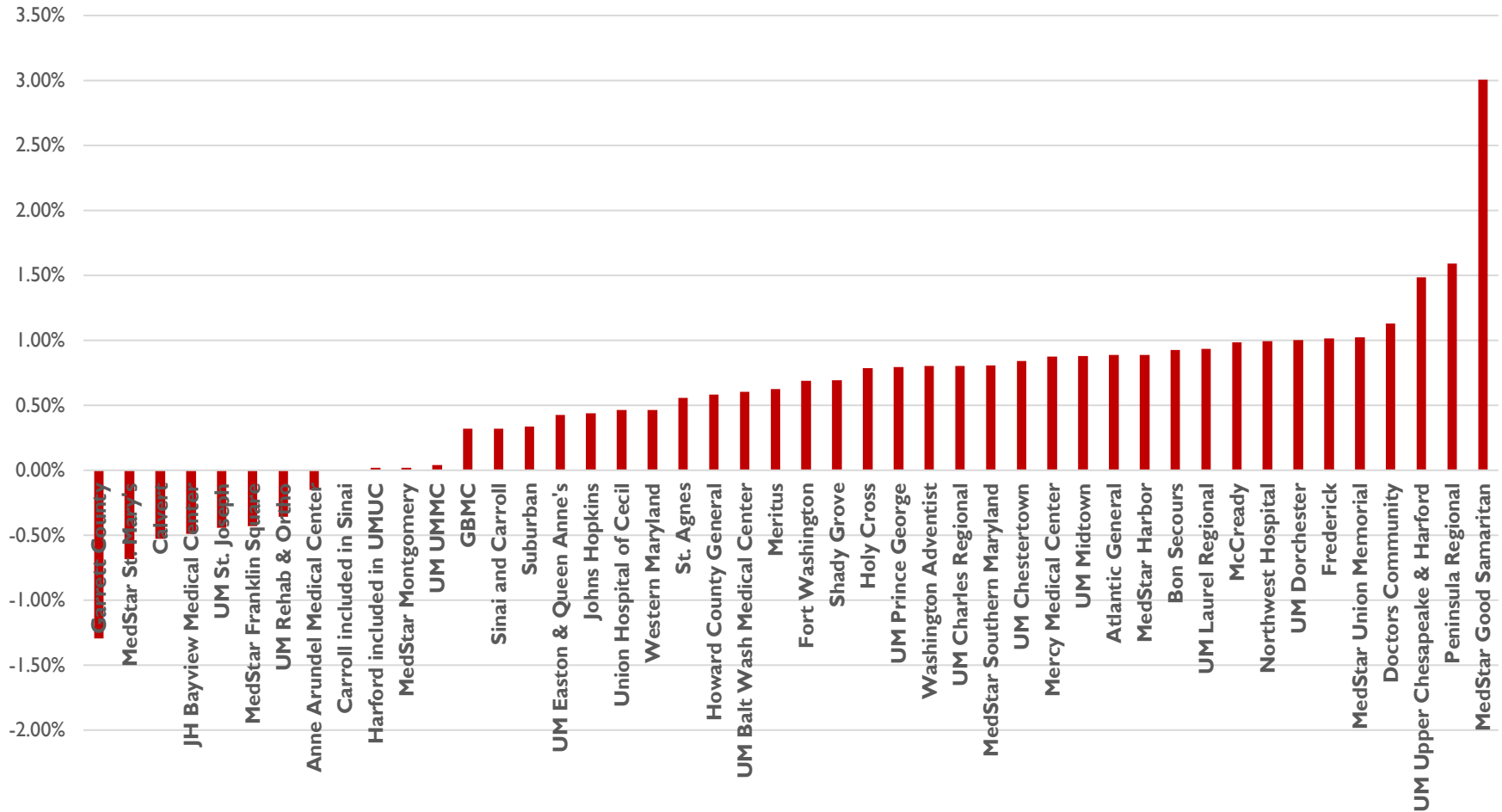
Stakeholder Comments:

Broaden Policy (Extend to Outpatient) cont.

- ▶ Staff agrees that is important to monitor the adequacy of funding through the CDS-A program but would make several points:
 - ▶ 1) the CDS-A program in the initial year covers 50% of costs permanently, and 50% of the costs on a one time basis, such that 100% of costs are covered in year one
 - ▶ 2) the CDS-A program, through the combination of providing 50% of costs on a permanent basis and providing a differential update factor for high cost drugs (10%), has covered the increased costs associated with growing and static drugs with escalating prices (see next slide), and
 - ▶ 3) the complexity and innovation policy should be reserved for inpatient only services, as:
 - the vast majority of highly specialized tertiary and quaternary cases occur in inpatient settings,
 - the casemix index differential for inpatient services is far starker than for outpatient services, and
 - Johns Hopkins Hospital and University of Maryland Medical Center are not among the top 10 hospitals for OP casemix acuity (excludes high cost drugs).

Stakeholder Comments: Broaden Policy (Extend to Outpatient) cont.

High Cost Drugs Over (Under) Funding as % of Hospital GBR



Stakeholder Comments:

Broaden Policy (Offset to Update Factor)

- ▶ CareFirst recommended that non-AMC "innovation" volume that decreases due to referrals to AMCs and not picked up in the market shift policy should result in an offset to the update factor.
- ▶ CareFirst also recommended the policy have a revenue-neutral offset against statewide inflation equivalent to any incremental innovation funding provided prospectively.

Stakeholder Comments:

Broaden Policy (Offset to Update Factor) cont.

- ▶ **Response:** Staff does not believe inflation offsets for non-AMCs are necessary, as volume evaluated in the complexity and innovation policy will be included in the market shift methodology but will be flagged, similar to the current categorical exclusion flag.
 - ▶ Staff will be able to evaluate any declines at non-AMCs that occur through this flag.
 - ▶ Declines will be defunded through the market shift policy; the corollary increases at the academic medical centers will be addressed through the complexity and innovation policy.
 - ▶ Staff expects this to be a fairly small amount of volume, as the 95% cell dominance rule will, by definition, reduce the extent to which non-academics have volume in this policy
- ▶ Staff does not believe the funding associated with growth in highly specialized cases should be automatically deducted from statewide hospital inflation.
 - ▶ Staff will continue to use total cost of care guardrails, as well as the State GDP growth to evaluate the adequacy of the annual update factor.
 - ▶ Staff does not agree that automatically reducing inflation to offset growth in innovative volume is appropriate given the larger cost trends hospitals are held accountable to.

Stakeholder Comments:

Broaden Policy/Additional Assurances (More Criteria)

- ▶ CareFirst indicated that the policy uses relatively low PAU volume as justification for the complexity and innovation policy.
 - ▶ There is no mention of revisiting this statistic to ensure the same inelasticity of AMC's budgets is maintained.
- ▶ Furthermore, CareFirst recommended using a more holistic measure of efficiency, such as the Integrated Efficiency policy, to determine a hospital's eligibility for the intensity and innovation policy.
- ▶ MedStar similarly requested that the policy include national utilization and reimbursement/charge benchmarking to ensure growth in both are reasonable.

Stakeholder Comments:

Broaden Policy/Additional Assurances (More Criteria)

▶ **Response:**

- ▶ In future reports on the complexity and innovation policy, staff will update the Commission on the AMC's standing in terms of PAU as a percentage of eligible revenue.
 - ▶ Staff would note though that this statistic will be widely distributed, as it forms the basis of the PAU credit in the capital methodology
- ▶ Staff have developed the Integrated Efficiency policy to evaluate both hospital cost per case and total cost of care performance, which will be used to scale the annual update factor. Staff recommends not conflating analyses and instead recommends handling efficiency concerns through the integrated efficiency policy and adjusting funding for highly specialized care through the complexity and innovation policy.

Stakeholder Comments: Additional Assurances (More Reporting)

▶ MHA recommended that staff:

- ▶ Annually Report on Innovation funding at a public meeting
- ▶ Validate impact of innovation funding in market shift adjustments

▶ CareFirst also recommended that staff:

- ▶ Build in appropriate sampling and clinical input to validate the qualifying procedures year over year to ensure volume is truly innovative and bringing incremental value to patients.

Stakeholder Comments:

Additional Assurances (More Reporting) cont.

- ▶ **Response:** Staff intends to recommend to the payment model workgroup each year a prospective amount for complexity and innovation in line with historical average growth. During these public meetings and at the Commission meeting when staff recommends inflation for the Update Factor, staff will provide a report on volume, spending and funding for services under this policy.
- ▶ For the RY 2022 Update Factor Recommendation, staff will include a validation analysis of the interplay between market shift and the complexity and innovation policy.
- ▶ Staff have added a second proxy for clinical significance in the complexity and innovation policy: All volume that has a casemix index less than 1.5 will be excluded from the policy
 - ▶ In doing so, staff believes there is not a need for additional sampling and clinical input to validate the qualifying procedures

Final Modeling: Decisions

- ▶ Staff made the following decisions when finalizing modeling for the RY 2021 Update Factor Recommendation for the Complexity and Innovation Policy.
 - ▶ Only included cases that exhibited $\geq 95\%$ cell dominance
 - ▶ Academics assessed as one collective
 - ▶ All other hospitals assessed individually
 - ▶ Excluded all cases with a casemix of less than 1.5
 - ▶ Exception was cases flagged as zero to dominant because these cases did not exist in the base
 - ▶ Procedures that met criteria were put into hierarchy such that procedure code sequencing determines allocation of charges
 - ▶ Identified cases through four categories and assessed growth as follows:
 - ▶ Dom-Dom Growth (total charge growth)
 - ▶ Dom-Zero Growth (total charge growth)
 - ▶ Zero to Dom Growth (total charge growth)
 - ▶ Dom-Non Dom Growth (charge per case)

Final Modeling: Decisions, cont.

- ▶ Charges were converted to costs by using Level II cost to charge ratio for drugs, supplies, and organ acquisition; 50% for all other charges
 - ▶ Used experience reports for charges and annual filings for cost
- ▶ Utilized evergreen list to preclude procedures previously marked as non-dominant being included in the policy
- ▶ Used base year of 2016; stopped analysis at RY 2019
 - ▶ Incorporated OP Drugs Spinraza and Lutathera in analysis
- ▶ Used combined AMC simple average to determine average annual growth
- ▶ Developed pro rata market shift analyses based on associated ECMAD growth in policy
 - ▶ Calculated Market Shift Charge Per ECMAD (Market Shift Adjustment / Shifted ECMADS)
 - Already takes into account 50% VCF and inflation factor
 - ▶ Calculated Innovation MS Assuming 100% recognized MS (MS Charge Per ECMAD X Innovation ECMAD Growth)
 - ▶ Calculated Innovation Market Shift to account for unrecognized shifts (Innovation Market Shift X IP % of ECMAD Growth Recognized in MS)



Final Modeling: Results UMMC

UMMC & Shock Trauma	<u>FY17</u>	<u>FY18</u>	<u>FY19</u>	<u>Total</u>
GBR	\$ 1,603,012,672	\$ 1,673,488,785	\$ 1,781,319,834	
Innovation Funding %	0.5%	0.5%	1.0%	
Funding Put into Rates	\$ 7,555,330	\$ 7,862,166	\$ 16,342,534	\$ 31,760,030
Volume Growth*	\$ 5,411,408	\$ 31,231,510	\$ 2,533,094	\$ 39,176,012
OP Volume Growth	\$ -	\$ -	\$ -	\$ -
Difference	\$ 2,143,922	\$ (23,369,344)	\$ 13,809,440	\$ (7,415,982)
Growth as % of GBR	0.34%	1.87%	0.14%	
Conclusion	Over Funded	Under Funded	Over Funded	
Market Shifts				6,285,741
Cumulative Funding Status	Under Funded	by		\$ (1,130,241)



Final Modeling: Results (Hopkins)

Hopkins		<u>FY17</u>	<u>FY18</u>	<u>FY19</u>	<u>Total</u>
	GBR	\$ 2,352,306,792	\$ 2,412,311,008	\$ 2,476,494,742	
	Innovation Funding %	0.5%	0.5%	1.0%	
	Funding Put into Rates	\$ 8,297,358	\$ 11,470,116	\$ 23,925,835	\$ 43,693,309
	Volume Growth*	\$ (5,163,241)	\$ 18,357,185	\$ (867,628)	\$ 12,326,315
	OP Volume Growth	\$ 132,000	\$ 5,837,000	\$ 1,767,600	\$ 7,736,600
	Difference	\$ 13,328,600	\$ (12,724,068)	\$ 23,025,863	\$ 23,630,394
	Growth as % of GBR	-0.21%	1.00%	0.04%	
	Conclusion	Over Funded	Under Funded	Over Funded	
	Market Shifts				(1,005,961)
	Cumulative Funding Status	Over Funded			\$ 22,624,433



Final Modeling: Results (RY 2021 Tentative Recommendation)

Cumulative

		1	2	3	4
Algebra	Descriptions	FY17	FY18	FY19	
A	GBR	\$ 3,955,319,464	\$ 4,085,799,793	\$ 4,257,814,576	
B	Innovation Funding %	0.5%	0.5%	1.0%	
C=A*B	Funding Put into Rates	\$ 15,852,689	\$ 19,332,282	\$ 40,268,368	
D	Volume Growth*	\$ 248,167	\$ 49,588,695	\$ 1,665,466	
E	OP Volume Growth	\$ 132,000	\$ 5,837,000	\$ 1,767,600	
F=C-D-E	Difference	\$ 15,472,522	\$ (36,093,413)	\$ 36,835,302	<i>Simple Average Approach</i>
F=(D+E)/A	Growth as % of GBR	0.01%	1.36%	0.08%	0.48% F4=average(F1-F3)



Final Modeling: Results (RY 2021 Tentative Recommendation)

<u>Algebra</u>	<u>Descriptions</u>	UMMC & Shock Trauma		Hopkins
			<u>FY20</u>	<u>FY20</u>
A=FY19 *1.03	RY 2021 Base GBR (calculated)	\$	1,834,759,429	\$ 2,550,789,584
B=C/A	RY 2021 Recommendation %		0.54%	-0.40%
C=A*D-E	RY 2021 Recommendation \$	\$	9,978,588	\$ (10,322,945)
D	Average Annual Growth		0.48%	0.48%
E	Over (Under Funding)	\$	(1,130,241)	\$ 22,624,433

